The Impact of Information and Communication Technology on Company Income Tax Collection in Nigeria.

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Abstract

The Nigerian economy is heavily dependent on oil as 80% of its revenue currently comes from this sector. However, tax revenue has never played a strong role in the country's management of fiscal policy and this is an issue of fundamental importance for development. Tax revenue is a predictable and sustainable source of income particularly given the high number of corporations operating in the country, some of which are multinational. Company Income Tax (CIT) can be a good source of government revenue, while also promoting economic growth, investment and the creation of job opportunities. Nigeria, like many developing countries, lacks an efficient tax collection system leaving a high proportion of company income tax uncollected as a result of avoidable leakages and corruption. The efficiency and effectiveness of company income tax collection depend on the medium of collection, and could be enhanced using Information and Communications Technology (ICT) as a driver, as is currently the case in developed countries.

Within the context of ICT integration in the public sector (e-government), this thesis identifies the impact of ICT on the collection of company income tax in Nigeria. Using the Technology Acceptance Model and the Theory of Planned Behaviour as the study's underpinning frameworks, this research adopted a mixed method approach and collected data through 230 returned questionnairesand 4 in-depth semi-structured interviews. The data was entered and analysed in the Statistical Package for Social Scientists (SPSS) programme (version 21) using non-linear Regression (correlation) for Propositions 1- 4 and multinomial regression for proposition 5. The study found that the level of effectiveness of revenue collection realized increased as a result of use of ICT in company income tax collection. This is due to the elimination of leakages and human error, and protection of revenue by transferring all payments to the Central Bank of Nigeria.

The study also found that company income tax revenue increased in 2007 from N332billion to N846.6billion in 2012, and that the Federal Inland Revenue Service surpassed its 2014 target by N400 billion or 9.32 per cent, generating about N4.69 trillion. Of this, N1.18 trillion was collected from company income tax in 2014, compared to the N1.03trillion in 2013, based on a quarterly revenue report released in Abuja and reported by Customs Today on 31 January 2015. It found that the use of ICT in CIT collection has improved transparency; taxpayers pay into the designated banks online and obtain a receipt immediately. The Federal

Inland Revenue Service's software monitors the entire process and traces payments to ensure accuracy; the banks then transfer the money to the Central Bank of Nigeria. The e-tax payment system was found to give the federal government a real time, almost minute by minute, report on taxes paid by taxpayers and receipted by the Federal Inland Revenue Service.

The findings revealed that ICT also has the potential to improve interactions between the tax authority and taxpayers, fostering transparency and accountability in the administration of company income tax collections. This study also found that information disseminates from the tax authority to company income taxpayers through radio and websites, publication and information requests submitted by the taxpayers and queries answered by tax officials. The results obtained indicated that using ICT facilitates the CIT collection process and predicted potential contribution to the effectiveness and efficiency in CIT collection in terms of the skills, opportunities and resources required.

This study has contributed to the limited body of work in this area and employed an extended version of the much studied Technology Acceptance Model (TAM) in order to produce insights into the impact of ICT on company income tax collection in Nigeria. The study model postulates that the adoption of ICT in CIT collection is determined by perceived usefulness and perceived ease of use, attitude, intention to use and accessibility in terms of affordability and infrastructure. There are obvious restrictions of time and inadequate funds as with other doctoral research works. This study was limited to the impact of ICT on company income tax collection, but other directions for future research are the impact of ICT on collection of other taxes such as petroleum profit tax collection in Nigeria.

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List of Abbreviations and Acronyms

CIT	Company Income Tax
ICT	Information and Communication Technology
E-tax	Electronic Tax
U.S.A.	United States of America
UK	United Kingdom
G8	Governments of Eight Nations
FAAC	Federation of African and Creole Associations
IGR	Internal Generation Revenue
GDP	Gross Domestic Product
IMF	International Monetary Fund
TIN	Taxpayer's Identification Number
VAT	Value Added Tax
OECD	Organization for Economic Cooperation and Development
FDI	Foreign Direct Investment
IRS	Internal Revenue Service
FIRS	Federal Inland Revenue Service
TA	Tax Administration
CIA	Central Intelligence Agency
PITA	Personal Income Tax Act
CITA	Company Income Tax Act
LFN	Laws of the Federation of Nigeria
SBIR	State Board of Internal Revenue
ARG	Accelerated Revenue Generation

FBIR	The Federal Board of Inland Revenue
JTB	Joint Tax Board
WHT	Withholding Tax
CDG	Corporate Development Group
SSG	Support Services Group
TOG	Tax Operations Group
CEG	Compliance and Enforcement Group
COG	Chairman's Office Group
NNPC	Nigeria National Petroleum Corporation
CBN	Central Bank of Nigeria
TAT	Tax Appeal Tribunal
PPTA	Petroleum Profit Tax Act
PWC	PricewaterhouseCoopers
NITDA	National Information Technology Development Agency
GMM	Generalized Method of Moments
OLS	Ordinary Least Squares
GLS	Generalized Least Squares
SSA	Sub-Saharan Africa
GSP	Gross State Product
CT	Corporation Tax

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Chapter One
Introduction and Background Information

1 Introduction

This chapter develops a general background for this study and discusses taxation within the context of public finance, the role of company income tax (CIT), information and communication technology (ICT), electronic government and application of ICT in CIT collection. Moreover, the chapter discusses the aims and purposes of the study and its contribution towards the existing body of literature on technology adoption. The emergence of ICT has changed the way people live, and it has advanced in such a way that worldwide communication at any time is made possible. Benjamin Franklin once said that "only two things in life are certain: death and taxes" (Connolly and Bannister, 2010:1). It is important that application of information and communication technology is used in public services such as taxation. "It is not surprising that technology has also affected how tax systems are designed and administered in developing countries and most countries have now moved from rooms full of clerks posting entries by hand in large ledger books—or, as we observed in one country as late as the early 1990s, writing in pencil on little pieces of paper—to widespread use of computers to administer their tax systems" (Bird and Zolt, 2008:4).

Governments all over the world have been using information technology for decades in many ways, but as ICT and computing power grows rapidly, these developments provide great opportunities for tax agencies to improve service quality and to concurrently reduce service costs. The e-tax payment system is an application of ICT to improve efficiency in tax collection, and it does not require taxpayers to physically interrelate with the tax authorities. Instead, it enables taxpayers to pay their taxes online. "The concept of electronic tax payment originated in the U.S.A., other technology-enabled nations have also moved quickly to utilize

the modality, including Australia, Canada, England, Germany, India, Singapore and Taiwan" (Turner and Apelt, 2004:2). Finally, the scope and significance of the study are also discussed in this chapter and the summary of the chapter.

1.1 Background

Taxation is one of the important fundamental issues in the management of national revenue, particularly in advanced countries. It has played a significant role in civilized societies. Taxation is vital to sustainable development, as it supports the basic roles of an effective state and sets the background for economic growth; more frequently overlooked is the role of taxation as a vehicle for the development of receptive and responsible government and for the growth of state capability. For any government to meet its recurrent expenditure, both internally and externally intensified revenue generation efforts are needed, mostly in the form of tax revenue. Chatama (2013:1) defines taxation as being "commonly used as the imposition by government of compulsory contributions or levies on the citizens, property, income, commodities, transactions and so forth, for the purpose of raising revenue for government expenditure such as health, defence, law and order, education and infrastructure, to encourage investment, and to defend the local market for domestic products through heavy taxes on unnecessary imports". In addition, taxation is the communal way any government sources its revenue, and it is often collected from the public in several ways. It involves the transfer of resources from individuals and corporate bodies to government, which can be used to finance expenditures such as social overhead projects and infrastructure for economic growth. Nightingale (2001:8) explains that "taxation is part of the price to be paid for an organised society" and he identified six reasons for taxation: "provision of public goods, redistribution of income and wealth, promotion of social and economic welfare, economic

stability, harmonization and regulation". The strongest and most effective fiscal instrument is taxation, which eases reduction of private consumption, increases investment and also involves the collection of resources from individuals or corporate bodies by the government for economic development. The economic and social goals of taxation involve influencing and controlling economic behaviour, transferring resources from the private to the public sector, distributing the cost of governance and promoting economic development.

In line with these numerous definitions of taxation, it is a means by which any government generates funds, and it involves the transfer of resources from individual and corporate bodies to government to finance expenditures such as health, defence, law and order, education and infrastructure. It also encourages investment and defends local markets and domestic products through heavy taxes on unnecessary imports. A tax is a fee charged or levied by any government on a product, income or activity to finance public goods and services. Tax is also a main source of government revenue all over the world, and is used for the provision of public goods, maintenance of law and order, defence against external hostility, trade and business regulation to ensure social and economic development.

According to Kieran *et al.* (2013:14), "tax issues are high on the agenda of African governments, and at an international level Prime Minister David Cameron has used the UK's presidency of the G8 to call for greater efforts to promote trade, tax compliance and transparency". Clause 4 of the Lough Erne Declaration released at the G8 summit in June 2013 stated that "developing countries should have the information and capacity to collect the taxes owed them and other countries have a duty to help them" (Kieran *et al.*, 2013:14).

However, many countries, mostly developing countries, are faced with the problem of generating the revenue to meet their expenditures. Budgeted revenues always fail to meet the expected expenditures, so relying on foreign aid and taxation is then seen as the most

suitable, efficient and effective means of generating revenue. Governments are required to provide public goods and services that would improve the living standards of citizens. According to Osei and Quartey (2005:1), "over the past two decades, the government of Ghana has consistently spent more than it is able to generate as revenue and the gap is often financed with foreign aid which has perpetuated the country's aid dependency". Tax is an important issue and fundamental for the development of any country.

The basic objective of taxation is to raise resource for national defence, creation of infrastructure and social upliftment schemes and to make regular and systematic resource mobilization obligatory. Other objectives are stated as follows:

i) Regulatory objectives: the state can discourage consumption of harmful and undesirable goods by levying prohibitive rates of tax.

ii) Objectives related to reducing inequalities: taxation can be a powerful weapon in tackling income disparities, and tax incentives and exemptions to start industries in the backward regions can be a good method of dealing with the problem.

It is necessary for any government to build a sustainable revenue base in order to meet its developmental plans, objectives and goals. The former president of Nigeria, Dr Goodluck Jonathan, in his speech at the 1st International Tax Conference held in Abuja on 27th October 2008, emphasized the need for a paradigm shift from dependence on oil revenue to tax revenue for sustainable growth and development when he said:

"There is no better time but now for Nigeria to put the issue of diversification of revenue sources away from oil on the front burner… For a nation to carry out basic functions of government, pursue and implement her development programmes like our "Vision 2020" … it

requires a stable, predictable and sustainable source of revenue. This leaves us with a very limited choice other than to subscribe to international best practices and make taxation the primary source of revenue of government…This is crucial in view of the fact that the so called diversification from dependence on oil as the principal source of revenue is applicable to the three tiers of government as States and LGAs should henceforth depend less on hand outs from FAAC and intensify their IGR drive".

In line with Nigeria's economic goal of broadening the tax base and reducing dependence on the petroleum industry, given the sharp drop in the price of crude oil between 2008, 2009 and 2014, increased non-oil revenue shielded the government from substantial revenue shortfalls. In his remarks on 16th November 2013 at the Governors Forum retreat for 36 governors in Sokoto, Nigeria, the former Governor of Ekiti State, Dr Kayode Fayemi, supported the above and stated that

"I wish oil will disappear in Nigeria. The way things stand, we can't build a successful tax base regime and, without it, people find it difficult to hold governors to task. Imperative of diversifying our economy is critical to deepening our democracy. May be we should shut down the oil wells for one year and see may be the groundnut and cocoa pyramids would return".On 13th November 2014 at the Institute of International Finance Summit in Lagos, Dr. Ngozi Okonjo-Iweala, Coordinating Minister of the Economy/Minister of Finance, stated that in several African countries, including Nigeria, tax revenue to gross domestic product (GDP) was below 15 percent, which is the conventional International Monetary Fund (IMF) threshold for satisfactory tax performance. At this summit, she also stated:

"countries in the region must aggressively look for alternative sources of revenues and stem leakages; stressing that it is now imperative to drive up domestic resource mobilization especially taxes…… that there are many leakages and gaps to be plugged, and that more

effective tax administration could contribute to improving revenues… that the Washington-based think tank Global Financial Integrity finds that at least 60 percent of the nearly $1 trillion in illicit flows from the African continent is due to trade mispricing and international tax invasion and so one can only imagine the boost to revenues if this practice can be curbed".

In recent years, the Nigerian tax system has undertaken various reforms to improve tax collection. The changes in the laws and bodies governing the tax system included organisational restructuring of federal and state authorities, the enactment of a national tax policy, reforms in funding, legislation, taxpayer education, dispute resolution mechanism, taxpayer registration, human capacity building, automation of key processes, refund mechanism and other areas. The reforms also introduced the unique Taxpayer's Identification Number (TIN) in February 2008.

There are various types of taxes in Nigeria, including personal income tax, company income tax, capital gains tax, education tax, petroleum profit tax and value added tax, among others. This study discusses company income tax as an important source of the government's revenue. Company income tax also promotes economic growth and helps attract new investments, enables redistribution of income and enhances job opportunities. Norton (2008:4) noted that "corporate income tax differs from individual income tax in two major ways such as i) it is a tax not on gross income but on net income, or profits, with permissible deductions for most costs of doing business and ii) it applies only to businesses that are chartered as corporations – not to partnerships or sole proprietorships". A significant positive relationship was "found to exist between the indices and measures of foreign direct investment (FDI) inflows, and between individual tax system attributes and those inflows, thus adding support to the supposition that host country corporate taxation influences the size

of FDI inflows" (Simmons, 2003). The impact of CIT on economic growth is shown in Figure1.1 below:

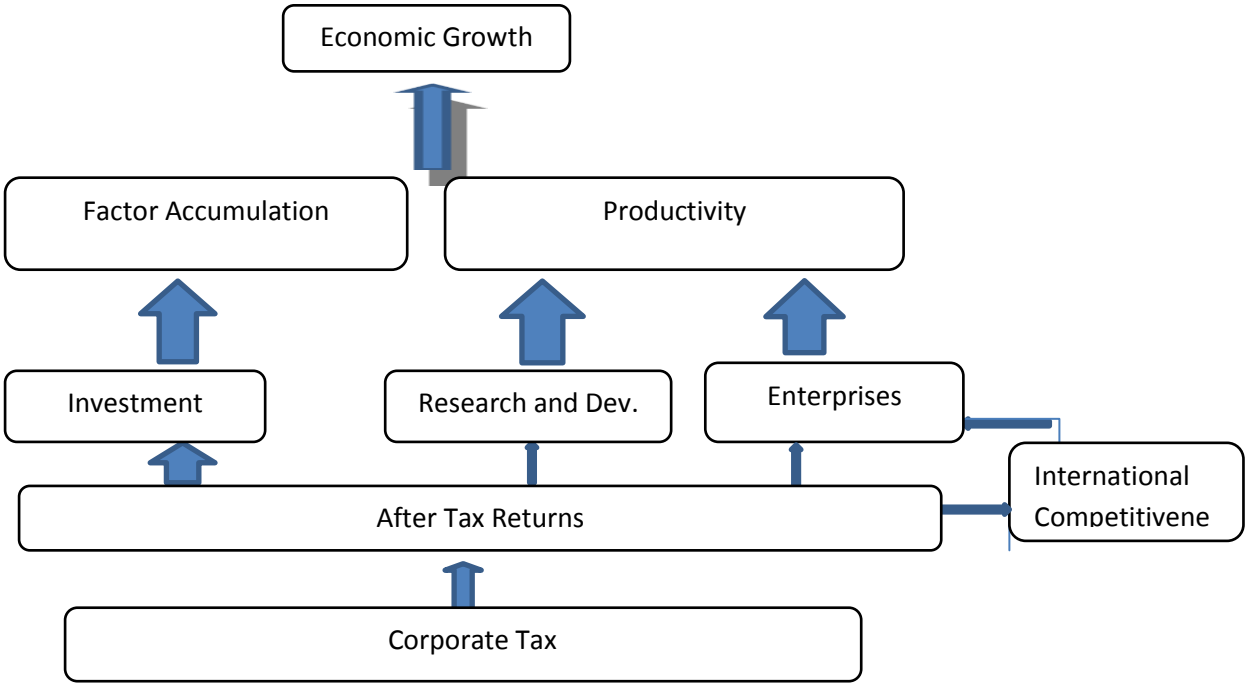

Fig. 1.1. The impact of CIT on economic growth

Source: Adapted from the Scottish Government (2011)

Edgar and Sander (2005) noted that "the CIT is levied on the income (profits) earned by corporate firms and when the pervasive role of entrepreneurship is fully taken into account as a direct tax on market adjustments and successful speculation".

In Nigeria, company income tax (CIT) collection has been seen as inadequate due to a lack of transparency and processing of clearance certificates among others. Developed countries have enjoyed and experienced various benefits of using ICT in tax collection as the principal source of a government's revenue, but many developing countries lack an efficient tax collection system, leaving in some cases over 60% of the tax potential untapped. The tax revenue generated from company income tax over the years has been completely understated

as a result of inefficiency and lack of an effective medium of tax collection. These numerous gaps in the tax system have made many companies in Nigeria fail to meet their statutory obligations. According to the Minister of Finance, Ngama (2013), "At the last count, about 350,000 companies have not rendered tax returns in the country and we need to strategize, we need to research and find out what can be done to improve tax rendition and tax collection, and what can be done to encourage accounting for activities."

In Nigeria, sustainable development and fiscal independence can only be achieved through an improvement of taxation processes such as ICT. According to Olabisi (2010:9), "the Nigerian tax system is not efficient and effective in its totality; there is no available database of all taxable individuals, the mechanisms in place for the assessment and collection of taxes were not effective and there are no strict measures in place". The recommendation of OECD (2000) stated that "developing countries should ensure that appropriate systems are in place to control and collect taxes and the potential for tax evasion and avoidance should be minimised while keeping counter-acting measures proportionate to the risks involved". The lack of transparency inspires corruption, and accountability can only materialize when leakages in tax revenue sources are blocked. Every government needs to strengthen its revenue-generating capabilities and tax revenue has been at the leading edge of governments' source of revenue mostly in developed countries. Electronic tax payment systems enhance timely access to accurate and relevant taxpayer information, and it is a prerequisite for good planning, programming and fiscal policy, as well as implementation of economic development. In addition, "it has become increasingly demanding for governments all over the world to devise appropriate means of generating adequate revenue to provide social amenities for their citizens" (Connolly and Bannister, 2010).

The International Monetary Fund (1989) noted that "ICT can be used to perform routine tasks more rapidly, such as processing forms, compiling statistics, and using available data to forecast tax revenues"; obviously, the tax environment is changing rapidly and the advancement of ICT is inspiring the operation of the e-tax payment system. "The implementation of information technologies, particularly using Internet to improve the efficiency and effectiveness of internal government operations, communications with citizens, and transactions with both individuals and organizations called e-government or electronic government" (Berdykhanova *et al.,* 2010). Taxpayers do not need to visit tax offices before making payments or call the tax officers; they can make payments at any time through approved banks or online. Crede (1998) reveals that "ICT has the capacity to increase productivity and create more cost effective output with the same or less inputs and the development of ICT applications for business use alter the approach by which organisations function and eventually improves their services as well as products". What these scholars are trying to emphasize is that the spread of ICT use in various sectors brings new opportunities for economic growth and development, new organisation design, new markets, new products and improved services, which in turn bring new sources of revenue.

Bird and Zolt (2008) revealed that "technology may influence the institutional and political context in many ways, such as: it may change the tax environment by altering distribution methods or reducing cash transactions; it may improve the quantity and quality of information available to taxing authorities and their ability to use that information effectively; it may make tax administration more effective by improving information flow, facilitating coordination, and improving the allocation of resources; technological changes may reduce taxpayer compliance costs by improving information and services to taxpayers (for example, software for maintaining books and records, and for calculating tax liabilities, or electronic or return-free filing alternatives) and it may reduce opportunities for corruption by reducing the

face-to-face interaction between taxpayers and taxing authorities". In addition, Hilton (2008) noted that "ICT is essential to optimise the collection of tax and revenue and it is noteworthy to quantify the effects of ICTs on fiscal practices and other key factors should be taken into consideration to analyse their influence in overall tax collection".

The Executive Chairman of the Federal Inland Revenue Services(FIRS) and Chairman of the Joint Tax Board, Omoigui-Okauru spoke at the 2nd Edo State Technology Day 8th July 2011, on the theme "Repositioning Edo State Using Technology." and stated that "tax collection in the country increased from N1.194 trillion in 2004 to N2.839 trillion in 2010 through the application of Information Communication Technology, ICT; the figure was an increase of between 337 and 247 per cent in the period and registered tax-payers in Federal Inland Revenue Service's data base had increased to over 700,000, from less than 100,000 in 2004".

In a recent study, Guillermo (2013) finds that "the use of ICT has had a direct and profound impact on the way private and public entities conduct business and IT is a crucial component of modern tax administration, as it enables tax administrations to better gather and analyse information, proactively manage workload and resources, foster - cooperative engagement with taxpayers, and standardize the treatment of taxpayers, facilitating the uniform application of the tax law". The use of ICT in company income tax collection to compile a database of information enables tax authorities to identify and address non-compliant taxpayers. It also increases transparency and is therefore a powerful tool in tackling corruption and minimising bribery. The use of ICT in company income tax collection also presents many benefits for revenue authorities, including faster processing of information and data, requiring fewer resources and reducing the cost of collection for tax authorities. According to de Wulf and Sokol (2005), "[The] application of technological solutions towards the strategic goals for government is a key step towards transforming government

into an entity that can keep abreast of the needs, requirements and expectations of today's modern world and modernization of tax collection systems". In the recent study of Muthama (2013), it was noted that "one of the important application areas related to the use of information technologies is the e-tax payment system and it has increased revenue collections". Wood (2004) indicates that, as an example, "the computer is one technology that has promoted in society expectations of immediacy and the ability to multitask by engaging in several tasks simultaneously or in overlapping and interactive ways."

The collection tax revenue in accordance with applicable legislation is a complex task because of the massive number of taxpayers and the different rules applied for each case. "To perform this duty, many different systems exist with the intention of assisting the IRS personnel to carry out their job" (Hilton, 2008). According to Sahu and Gupta (2007), "governments worldwide are leveraging ICT in many ways to make potential cost savings and increase efficiency in providing online services to their citizens". The emergence of information and communication technology (ICT) in Nigeria has encouraged the development of electronic services, such as the e-tax payment system, offered by government agencies for the convenience of the taxpayers. It also helps taxpayers fulfil their tax obligations without problems, thus encouraging tax compliance and increasing tax collection revenue through an enforcement scheme (Special Purpose Tax officers); - these are special tax officers who work in collaboration with other security agencies to ensure strict compliance in payment of taxes. Okike (2007:188), in his analysis of Nigeria, stated that "though efforts to improve governance standards in Africa are commendable, endemic corruption still exists, the code of conduct alone will not be sufficient to bring about necessary changes and any improvement in practice will be dependent on strong enforcement mechanisms". Any increase in the amount of tax collected will contribute to the increase in

national revenue generation. At the same time, it will enable the government to provide good services to the public, such as better facilities for educational purposes, better health services and better road maintenance and public facilities. The research problem will be discussed in the next section.

1.2 Problem Statement

Many developing countries lack an efficient tax collection system, leaving, in some cases, a high proportion of company income tax uncollected as a result of the presence of avoidable leakages and corruption. The efficiency and effectiveness of tax revenue collection can be affected by the medium of collection. The use of ICT in collecting tax revenue is more common in developed countries. This study explores the current impact of ICT for tax collection and considers potential widening of tax paying organisations in a developing economy, using Nigeria as a case study and identifies any limiting factors.

1.3 Research Aim

This study's aim is to explore the impact of ICT on the collection of company income tax in Nigeria. The study will highlight the advantages and challenges associated with the application of ICT in company income tax collection in Nigeria.

1.4 Study Objectives

The following objectives were based on the identified knowledge gaps in the literature and the aim of the study

1. To investigate the state of CIT collection with the existing use of ICT;

2. To assess the impact of ICT in compliance and the cost incurred from enforcing compliance of CIT collection;
3. To examine the current level of CIT information dissemination with the use of ICT in CIT collection;
4. To explore the transparency of CIT collection with use of ICT;
5. To evaluate the ICT potential contribution towards the effectiveness and efficiency of CIT collection.

1.5 Research Questions

1. Has the existing level of ICT use in CIT improved revenue generation?
2. What is the impact of ICT on CIT compliance and the cost incurred from enforcing compliance?
3. Has the use of ICT in CIT collection improved tax information dissemination?
4. Has CIT collection been transparent with the use of ICT?

Can ICT make a potential contribution towards effectiveness and efficiency of company income tax collection?
These objectives are translated into the following propositions that will be evaluated through data collection and analysis:

1. The introduction of ICT has enhanced CIT collection and improved revenue generation.
2. The use of ICT has impacts on company income tax compliance and the cost incurred from enforcing compliance.
3. The use of ICT has increased tax information dissemination.
4. The use of ICT has improved the transparency of CIT collection.
5. ICT can potentially contribute to the effectiveness and efficiency of company income tax collection.

1.6 Scope of the Study

This study discusses and evaluates the impact of information and communication technology (ICT) on company income tax collection in Nigeria in terms of availability, utilization and transitional impact. In assessing the impact of information and communication technology on company income tax, this study focusses only on the activities of the Federal Inland Revenue Service (FIRS) in the collection of Company Income Tax (CIT) in Nigeria, particularly in Abuja and Lagos. The two cities were chosen because Abuja is a capital territory where all federal government head offices are located, including the Federal Inland Revenue Service, and Lagos is the biggest commercial city in Nigeria. With a population of 21 million, Lagos is the former federal capital, the centre of Nigeria's economy and generates about a quarter of Nigeria's total gross domestic product. The Nigerian company income tax ordinance was enacted in 1939 and the Federal Government has maintained exclusive jurisdiction over the taxation of companies. The Companies Income Tax Act, 1990, established the Federal Board of Inland Revenue together with its operational arm called Federal Inland Revenue Service (FIRS). The Service has responsibility to administer the Companies Income Tax Act through collection and assessment of tax revenues, processing of returns and information, limiting tax evasion and providing services to taxpayers (companies). To support the Federal Government of Nigeria's agenda, to put more companies into the tax net and to reduce as much as possible the incidence of tax avoidance and evasion, the scope of this study involved all companies incorporated in Nigeria (as shown in appendix C) with the exception of companies engaged in petroleum operations, all non-resident (foreign) companies that earn or derive income from Nigeria and all organizations limited by guarantee (institutions of public character or charitable organizations) and engaged in profit making activities other than the promotion of their primary objects.

1.7 Significance of the Study

The results of this study will be useful for stakeholders such as scholars, the Federal Inland Revenue Service, companies, tax consultants and tax policy makers that are interested in encouraging the adoption of ICT in company income tax collection. It will serve as a guide to the government to plan its strategies and to improve the usage of ICT on company income tax collection. This study will play a significant role in identifying the benefits and challenges of the e-tax payment system to the government of Nigeria, the Federal Inland Revenue Service, companies and tax practitioners. It will provide a basic platform for evaluating the impact of ICT in company income tax collection and providing empirical evidence of ICT adoption from the tax authorities' and taxpayers' perspectives. The study will be able to shape the direction of the Nigerian government's policies regarding e-tax payment and its service deliveries. It will also assist the Federal Inland Revenue Service in improving ICT usage in company income tax collection. This, in turn, will undoubtedly educate companies, tax practitioners and the Federal Inland Revenue Service and improve their attitudes towards an e-tax system as a means to fulfil their statutory obligations.

This study will establish the existing gaps in the adoption of ICT in collecting company income tax to generate revenue for the government to meet its required overhead. In addition, the study will become useful for those who wish to undertake more research in this area. It will make several useful research contributions, which include the areas suggested for future work and questions that are important to e-tax payment in developing countries, especially in Nigeria. Finally, this study is the first of its kind, and it will contribute to the literature on technology adoption in company income tax collection. It also offers important insights to the FIRS in improving and enriching their online tax payment system and online services in general.

1.8 Chapter Summary

As stated above, there is very little work that has been done on the impact of ICT in company income tax collection in Nigeria, and this has triggered the researcher to conduct this study. "The use of ICT in general has also changed the government service delivery process, business models and people's expectations of the quality and efficiency of information sharing and service delivery" (Dorasamy *et al.,* 2010). Nigeria, too, is on this bandwagon. This chapter has introduced the study, provided background and discussed the objectives and significance of the study. It has also discussed the contributions of the study in relation to the existing literature regarding the e-tax payment system.

The rest of this study comprises Chapter 2: General Background of Taxation in Nigeria; Chapter 3: A Review of Literature; Chapter 4: Review of Relevant Theories; Chapter 5: Methodology; Chapter 6: Data Analysis; and Chapter 7: Conclusions, Recommendations and Future Studies.

CHAPTER TWO
General Background of Taxation in Nigeria

2 Introduction

The previous chapter covered the introduction, and this chapter looks at the general background of taxation in Nigeria, in order to ensure a thorough understanding of the existing tax system in the country. This chapter will discuss the general background of taxation in Nigeria, tax laws in Nigeria, the Nigerian tax system, company income tax in Nigeria, challenges in company income tax collection in Nigeria, tax administration (TA) in Nigeria, various reforms and the use of electronic systems to administer company income tax in Nigeria. The chapter will conclude with a summary.

2.1 General Background of Taxation in Nigeria

Nigeria is located on the West African coast of the Gulf of Guinea and shares boundaries with Ghana, Cameroon, Republic of Benin, Togo and Niger. It is a country with a population of about 154 million people on a landmass of about 923,768 square kilometres (356,669 square miles).

Figure 2.1 Map of Nigeria

Source: CIA: World Factbook (2005)

Nigeria became independent in 1960.During the pre-colonial era, taxation functioned more or less on an ethnic basis such as the northern areas, the 'emirs', Yoruba and Benin Kingdom and the " Obas". In the non-chieftaincy areas, such as Igbo, Tiv, Bura, Igbira and Bachama, there was little or no form of organised taxation (Abdulrazaq, 1993). In the northern area**,** the emir collected a tax called zakat, a type of taxation prescribed by the Holy Qur'an and levied on Moslems for charitable, religious and educational purposes. The emir also collected a kudin-kasa, or land tax; jangali, or cattle tax; a plantation tax called shukka-shukka and kudin sarauta. While in the north-eastern area**,** Kanem-Borno collected the Kasasairam *tax* shede hudo, hakki binimram, was a secular tax collected by the Chima Kura (landowners), the Kaleram, Warata, Kafelo and hadiyya. Moreover, in the western area, Obas collected taxes in the form of Ishakole, Owo ode, and Owo Asinghu. The individual provincial community (in the western area) bore the maintenance of the ruler and his troops of servants, messengers and attendants. In addition, the Igbos who populate Eastern Nigeria did not have monarchies like the North and Yoruba – thus there was no ruling aristocracy that collected taxes in a systematic manner as was the case in the north or west.

The creation of the Colony of Lagos in 1862 brought about the establishment of English law, where income tax was first introduced in Nigeria by Lord Lugard in 1904 (Due, 1962, as cited in Abdulrazaq, 1993), and an amended ordinance that extended the provisions in the Native Revenue Ordinance of 1917 to Southern Nigeria was passed in 1918.

These native revenue ordinances of 1917, 1918 and 1928 were later incorporated into the Direct Taxation Ordinance No 4 of 1940, cap 54, and it repealed the Native Revenue Ordinance, cap 74, of 1923 and ordinance No 41 of 1937.

The Raisman Fiscal Commission was set up in 1958 to look into fiscal matters in the country to resolve the problems of inconsistency and confusion generated by these laws. It also studied the jurisdiction and powers of each tier of government in post-independence Nigeria. The Commission came up with a recommendation that there should be harmonization of taxation principles throughout the country. The Raisman Fiscal Commission's report formed the basis of the present-day tax system in Nigeria.

The tax laws in Nigeria will be discussed in section 2.2.

2.2 Tax Law in Nigeria

The major tax laws and various related amendments include the following:

i) Personal Income Tax Act of 1990 and 1998 amended in 2012

ii) Company Income Tax Act of 1990 amended in 2007

iii) Petroleum Profits Tax Act of 1990

iv) Value-Added Tax Act of 1993

v) Education Tax Act of 1993

vi) Capital Gains Act of 1990

vii) Customs and Excise Management Act of 1990

viii) Minerals and Mining Act of 1999

ix) Stamp Duties Act of 1990

x) Taxes and Levies (Approved List for Collection) Act of 1998 and

xi) 1999 Constitution of the Federal Republic of Nigeria.

According to Bird and Zolt (2008), "a tax system of a country comprises the tax policy, the tax laws and the tax administration". The Nigerian tax system will be discussed in the next section.

2.3 Nigerian Tax System

Nigeria operates a federal system of government power shared among three tiers of government, which are the following:

i) Federal

ii) State (36) and

iii) Local Governments Areas (774).

The Nigerian tax structure, as stipulated by the constitution, is vested in each tier of government with powers in its area of jurisdiction. Under the constitution, each tier of government has been granted powers and responsibility with respect to the imposition and collection of taxes. A solid and thorough tax system is important for the development of any nation. "Tax is not the sole determinant of rapid development but a pillar of an effective state, and may also provide the basis for accountable and responsive democratic systems" (OECD, 2008).

In this regard, the principles of state policy under Chapter 2 of the Nigerian Constitution set out the states' fundamental objectives and directive principles in various areas.

Prior to the mid-1970s – agricultural commodities used to be the main source of income in Nigeria, but crude oil took this role thereafter – the Nigerian economy was characterised by the dominance of the agriculture tax, which served as a proxy for personal income tax because of the difficulty in correctly determining tax liability and accessing individual farmers. Ariyo (1997) stated that, during this period, various marketing boards were responsible for collecting taxes.

There is no law Nigeria that allows the use of tax consultants in tax assessment and collection. Sections 85A to E of the Personal Income Tax Act (PITA) 1998, which was

amended in 2012, specifies that the State Board of Internal Revenue (SBIR) is the relevant tax authority for the purpose of tax assessment and collection in each state. The federal and state governments introduced tax consultants to collect tax revenue under a scheme called accelerated revenue generation (ARG) to increase their internal revenue.

The tenets of good tax theoretical underpinning this study will be discussed in the next section.

2.3.1 The Tenets of a Good Tax system

The tenets of a good tax system have been identified (FRN, 1997 & 1999; CITN, 2002; Micah et al., 2012) as follows:

i) It must be simple (simplicity), easily understood by all, its laws and administration must be consistent (certain) and companies (taxpayers) must understand the basis of its imposition (clear).

ii) To enable a high level of compliance, the economic costs of time required and the expense which a company (taxpayer) may incur during the procedures for compliance shall be kept to the absolute minimum at all times.

iii) The cost of administration must be relatively low when compared to the benefits derived from its imposition.

iv) The company income tax system should be fair and as such observe the objective of horizontal and vertical equity.

v) Company income tax in Nigeria should be flexible enough to respond to changing circumstances.

vi) The company income tax system shall, at all times, strive to minimise the negative impacts of taxes on economic efficiency by ensuring that marginal tax rates do not distort the marginal propensity to save and invest.

The role ICT can play for a good tax system can be borne out from the fact that the tenets listed at items 2, 3 and 5 can be achieved due to speed and efficiency of storage and recall of documents across long distances enabled by the use of ICT and the tenets listed at items 1 and 4 are supported by the interactive ease of information dissemination and transparency offered by ICT. Thus, excepting the last tenet, which is related to policy making, all the other tenets of good tax system are supported by ICT.

Some hindrances for the Nigerian tax system

The hindrances for the Nigerian tax system are the following:

i) The crisis between state governments (for example, Lagos State, Ogun, Abia, Oyo and Benue recently became states) and the federal government regarding the tax jurisdiction of VAT in the state is a contentious issue in court.

ii) The multiple taxes individually controlled by all the three tiers of government levies welfare charges.

iii) There is no database, which enables tax avoidance in the country.

iv) The issue of corruption is very rampant in the country; it has reduced the cartainty and conviction of taxpayers in discharging their tax obligations.

v) Infrastructural development is a major factor that hinders the adoption of IT in Nigeria; the infrastructure is in poor condition, and most facilities (electricity, water, etc.) are often privately sourced.

According to Oluwakayode and Arogundade (2011), "tax administration deals with the management of all taxes and tax-related activities in such a way as to maximize the objectives of the law". Tax administration activities will be discussed in the next section.

2.4 Tax Administration in Nigeria

Tax administration involves practical interpretation and application of tax laws. The bodies charged with tax administration (TA) in Nigeria are the federal, state and local governments. The tax authorities of these tiers of government derive their formation from the federal laws, which include:

i) The Federal Board of Inland Revenue (FBIR), sections 1, 2 and 3 of the

Companies Income Tax Act (CITA) 1990, amended in 2007.

ii) The Board of Internal Revenue (BIR), section 85A, B and C of Personal Income Tax Act1990, as amended in 2012.

iii) The Local Government Revenue Committee, section 85D and E of Personal Income Tax as amended.

"Tax administration can be described as the management of all taxes and tax-related activities in such a way as to maximize the objectives of the law, which is the generation of as much tax revenue as possible to finance the government administration and its various socio-

economic programmes for the common good of all the citizens of the State" (Oluwakayode and Arogundade, 2011).

Adesola (1998) states that "the major objectives of tax administration are as follows:

i) to identify fiscal and social objectives and to design appropriate tax policies most suitable to achieve those objectives;

ii) to implement established tax policy efficiently, economically and effectively;

iii) to monitor and evaluate tax policy to determine its social benefits and costs, its impact, feasibility and sustainability;

iv) to ensure that the basic principles of taxation are observed with regard to the formulation of appropriate taxpayers to pay tax policy;

v) to encourage taxpayers to pay tax voluntarily;

vi) to prevent tax evasion as much as possible;

vii) to detect tax loopholes which can be unduly exploited by taxpayers in reducing their tax liabilities and to make appropriate measures to block the loopholes;

viii) to collect and account for the tax so collected in accordance with existing rules and regulations and to produce tax reports and tax statistics from time to time".

In Nigeria, the three tiers of government each have their spheres clearly spelt out in the tax laws. These various tax authorities, as established under the relevant tax laws, carry out TA in Nigeria. The tax authority, as defined in section 100 of the Personal Income Tax Decree, 1993 and amended by Decree No 18 - Finance (Miscellaneous Taxation Provisions) Decree

1998, means “the Federal Board of Inland Revenue, the State Board of Internal Revenue or the Local Government Revenue Committee”.

The tax authority (as defined), the Joint Tax Board, the Joint State Revenue Committee and the Body of Appeal Commissioners together constitute the “organs” of TA in Nigeria. Through its operational arm, the Federal Inland Revenue Service (FIRS), the Federal Board of Inland Revenue (FBIR) deals with corporate bodies, as well as personal income tax categories such as members of the Armed Forces, the Nigerian Police, and residents of the Federal Capital Territory Abuja, external affairs officials and non-resident individuals. All taxes collected by FIRS go to the federal government. Through its operational arm, the State Internal Revenue Service, the State Board of Internal Revenue collects taxes from individuals and partnerships located in the states. Collected taxes go to the state governments. The Local Government Revenue Committee collects specified rates, levies and fees from individuals and businesses located in the local government area.

Each state has its own Internal Revenue Board to oversee personal TA and collection, but a central body is needed to resolve conflicts that may arise between tax authorities, and this responsibility is devolved to a body called the Joint Tax Board (JTB). The JTB is, thus, the apex unifying body for all tax authorities in Nigeria. Specifically, the problems common to and disputes arising among tax authorities are dealt with by this board, which has been established, among other reasons, to act as the adjudicating body.

Federal Inland Revenue Service

The Companies Income Tax Act of 1990 established the Federal Board of Inland Revenue, and its operational arm, the Federal Inland Revenue Service (FIRS), was established in 2007. FIRS has the responsibility of administering the following taxes:

i) Companies Income Tax Act

ii) Petroleum Profits Tax Act; and

iii) Value Added Tax Act.

In addition, the Federal Inland Revenue Service also administers the following:

iv) Personal Income Tax Act for residents of the Federal Capital Territory, members of the Nigeria Police Force, members of the Armed Forces of Nigeria, staff of the Ministry of Foreign Affairs and non-residents.

Furthermore, the Federal Inland Revenue Service is also responsible for:

v) Capital Gains Tax Act and

vi) Stamp Duty Act, in regards to residents of the federal capital territory, corporate bodies and non-residents.

The Federal Inland Revenue Service advises government on policy issues relating to tax revenues and has the responsibility of collecting and assessing tax revenues. In addition, the Federal Inland Revenue Service prepares tax laws for the National Assembly to approve and implement, instead of the Presidency. However, all taxes collected by the Federal Inland Revenue Service go to the federal government, and states and local governments have the responsibilities of administering the taxes shown in Table 2.1 below.

State government	**Local government**
Personal income tax (applies to residents of the state)	Tenancy rates
Withholding tax (individuals only)	Shop and kiosk rates
Capital gains tax (individuals only)	Fees for on-off liquor licenses
Stamp duties (applies to instruments executed by individuals only)	Fees for butcher slabs
Road taxes (e.g., vehicle licenses)	Fees for marriage, birth and death registrations
Taxes on pool bets, lottery and casino wins	Fees for street name registration (except in the state capital)
Business premises and registration fees in urban and	Motor park fees

rural areas: Urban areas as defined byeach state, maximum of: (i) N 10,000 for registration,And (ii) N 5,000 per annum for renewal of registration; Rural areas: (i) N 2,000 for registration, and (ii) N 1,000 per annum for renewal of registration	
Development levy (max. of N 100 per annum applies to taxable individuals only)	Market taxes and levies (except in any market where state finance is involved)
Street name registration fees (state capital only)	Fees for domestic animal licenses
Fees for right of occupancy on urban land owned by the state government	Fees for bicycles, trucks, canoes, wheelbarrows, carts
Market taxes and levies where state finance is involved	Fees for right of occupancy on land in rural areas (except those of federal and state governments)
Miscellaneous revenue (e.g., rent on property)	Cattle tax, applies to cattle farmers only
	Entertainment and road closure levy
	Fees for radio and television licenses
	Vehicle parking and radio license fees
	Charges for wrongful parking
	Fees for public conveniences, sewage and refuse disposal
	Customary ground permit fees
	Fees for permits for religious establishments
	Fees for permits for signboards, bill boards and advertisements

Table 2.1 Taxes Administered by the states and Local governments

The Federal Inland Revenue Service has various functions under the Federal Inland Revenue Service (Establishment) Act, and these include the following:

i) assess persons, including companies and enterprises, chargeable with tax;

ii) assess, collect, account for and enforce payment of taxes that may be due to the Government or any of its agencies;

iii) collect, recover and pay to the designated account any tax under any provision of the Federal Inland Revenue Service (Establishment) Act or any other enactment or law;

iv) in collaboration with the relevant ministries and agencies, review the tax regimes and promote the application of tax revenues to stimulate economic activities and development;

v) in collaboration with the relevant law enforcement agencies, carry out the examination and investigation with a view to enforcing compliance with the provisions of the Federal Inland Revenue Service (Establishment) Act;

vi) make, from time to-time, a determination of the extent of financial loss and such other losses by government arising from tax fraud or evasion and such other losses (or revenue forgone) arising from tax waivers and other related matters;

vii) adopt measures to identify, trace, freeze, confiscate or seize proceeds derived from tax fraud or evasion;

viii) adopt measures which include compliance and regulatory actions, introduction and maintenance of investigative and control techniques on the detection and prevention of non-compliance;

ix) collaborate and facilitate rapid exchange of information with relevant national or international agencies or bodies on tax matters;

x) undertake exchange of personnel or other experts with complementary agencies for purposes of comparative experience and capacity building;

xi) establish and maintain a system for monitoring international dynamics of taxation in order to identify suspicious transactions and the perpetrators and other persons involved;

xii) provide and maintain access to up-to-date and adequate data and information on all taxable persons, individuals, corporate bodies or all agencies of government involved in the collection of revenue for the purpose of efficient, effective and correct tax administration and to prevent tax evasion or fraud

xiii) maintain database, statistics, records and reports on persons, organizations, proceeds, properties, documents or other items or assets relating to tax administration, including matters relating to waivers, fraud or evasion;

xiv) undertake and support research on similar measures with a view to stimulating economic development and determine the manifestation, extent, magnitude and effects of tax fraud, evasion and other matters that affect effective tax administration and make recommendations to the government on appropriate intervention and preventive measures;

xv) collate and continue to review all policies of the federal government relating to taxation and revenue generation and undertake a systematic and progressive implementation of such policies;

xvi) liaise with the office of the Attorney General of the Federation, all government security and law enforcement agencies and such other financial supervisory institutions in the enforcement and eradication of tax related offences;

xvii) issue a taxpayer identification number to every taxable person in Nigeria, in collaboration with state boards of internal revenue and local government councils;

xviii) carry out and sustain rigorous public awareness and enlightenment campaigns on the benefits of tax compliance within and outside Nigeria;

xix) carry out oversight functions over all taxes and levies accruable to the Government of the Federation and as it may be required, query, subpoena, sanction and reward any activities pertaining to the assessment, collection of and accounting for revenue accruable to the Federation; and

xx) carry out such other activities as are necessary or expedient for the full discharge of all or any of the functions under Federal Inland Revenue Service (Establishment) Act.

Joint Tax Board (JTB)

The Joint Tax Board (JTB) is the central body established to resolve conflict between the Federal Inland Revenue Service and the State Internal Revenue Service (SIRS) and conflict between SIRS and local government.

Non-resident companies are subject to withholding tax (WHT) deductions on the income they earn from Nigeria. This becomes their tax upon filing returns. In summary and in line with the current study, the applicable tax law is the Companies Income Tax Act 2007.

The Administrative Structure of FIRS

A new administrative structure was announced by the chairman of the Federal Inland Revenue Service in September 2004. In June 2007, the management of the service introduced the "group system" structure in which roles and functions cascade from the group levels to

departmental levels, down to unit levels and finally to individual levels. The restructuring saw the introduction of the group system and removed "divisions". Under the current arrangement, groups are headed by coordinating directors who report to the executive chairman. The groups consist of several departments headed by directors, and the departments are comprised of units and sub-units. The five groups that emerged from new administrative structure are the following:

(i) Corporate Development Group (CDG)

(ii) Support Services Group (SSG)

(iii) Tax Operations Group (TOG)

(iv) Compliance and Enforcement Group (CEG)

(v) Chairman's Office Group (COG)

The FIRS organisation structure approved on 1 March 2012 is depicted in Figure 2.2 below:

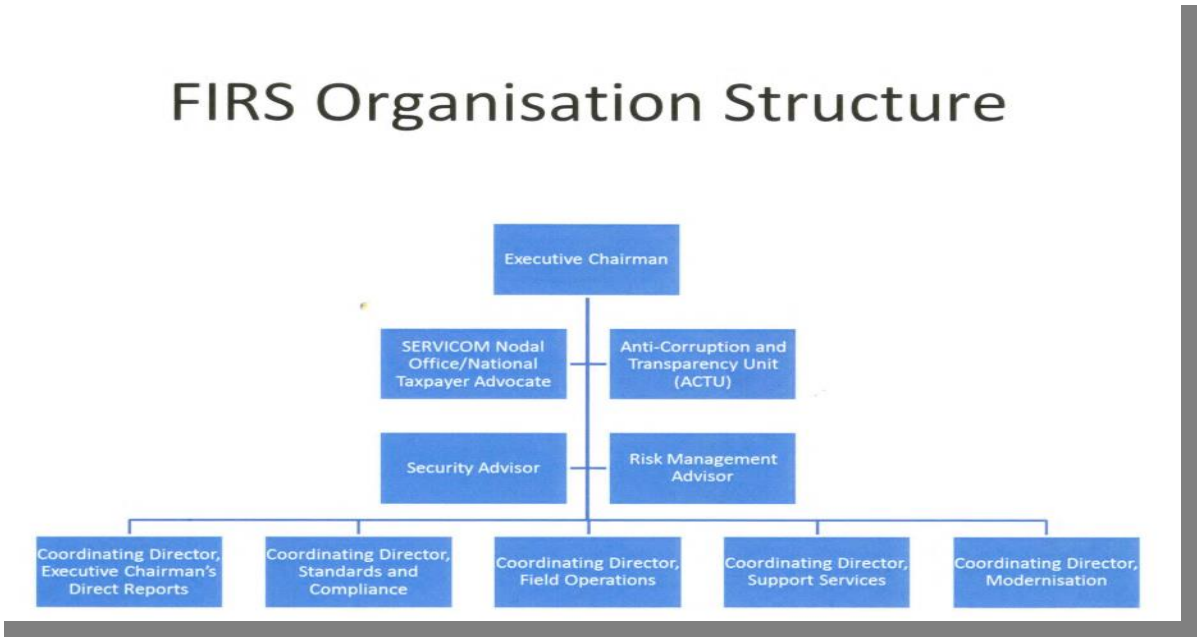

Figure 2.2: FIRS Organisation Structure
Source: Federal Inland Revenue Service

Composition of the FIRSB

The federal Inland Revenue Service Board comprises the following members:

i) Executive Chairman – a person within the service to be appointed by the President

ii) Six members with relevant qualifications and expertise – to be appointed by the president to represent each of the six geopolitical zones

iii) A representative of the Attorney General of the Federation

iv) The governor of the Central Bank of Nigeria or his representative

v) A representative of the Minister of Finance not below the rank of director

vi) The chairman of the Revenue Mobilization Allocation and Fiscal Commission or his representative, who shall be any of the commissioners representing the 36 states of the federation

vii) The group managing director of the N.N.P.C. or his representative, who shall not be below the rank of a group executive director of the corporation or its equivalent

viii) The comptroller general of the Nigeria Customs Services or his representative, not below the rank of deputy comptroller general

ix) Registrar-general of the Corporate Affairs Commission or his representative, not below the rank of a director

x) The Chief Executive Officer of the National Planning Commission or his representative not below the rank of a director

The members of the board, other than the executive chairman, are part-time members.

CIT in Nigeria will be discussed in the following section 2.5.

2.5 Company Income Tax in Nigeria

The company income tax ordinance in Nigeria was enacted in 1939, and the federal government has maintained exclusive jurisdiction over the taxation of companies.

According to Soyede and Kajola (2006), "company income tax history is comparatively brief and straightforward and it has been imposed and collected by the federal government since its introduction in 1939". Nigerian companies are taxed on worldwide income, and companies registered in a foreign jurisdiction with a fixed base or permanent establishment in Nigeria are taxed only on Nigerian-sourced income. CIT involves the profit of any company accruing in, derived from, brought into, earned in or received in Nigeria, as stipulated in the Companies' Income Tax Act CAP C21 2004 LFN, amended in 2007. The tax rate was 30%, and applied on the total profit or chargeable profit of the company. With the new tax policy, the rate decreased from 30% to 20%. However, before any company pays dividends to its shareholders, it is first obliged to pay company income tax on its profits and company dividends, regardless of whether a capital nature received by shareholders is liable to tax at source of 10%. The Companies Income Tax Act uses the concept of a "fixed base" rather than residence. Moreover, any non-resident company operating in Nigeria through a fixed base or permanent establishment, as defined in a tax treaty, is also subject to company income tax at the same rate.

Persons subject to the Companies Income Tax:

i) All companies incorporated in Nigeria, with the exception of companies engaged in petroleum operations;

ii) All non-resident (foreign) companies that earn or derive income from Nigeria;

iii) All organizations limited by guarantee (institutions of public character or charitable organizations) and engaged in profit making activities other than the promotion of their primary objects;

iv) The liquidator, receiver, or agent of the liquidator or receiver of any taxable company or organization.

Where to Pay the Companies Income Tax:

i) Companies incorporated in Nigeria and organizations limited by guarantee pay the Companies Income Tax through any of the designated banks. Once payment has been captured by the bank collecting system, an e-ticket is issued to the company. This e-ticket is proof of payment, and when presented at the Integrated Tax Office with jurisdiction, an e-receipt will be issued.

ii) Non-resident companies also make payment through the designated banks.

How to Pay Companies Income Tax

Resident companies and organizations prepare and submit annual self-assessment tax returns as specified by Federal Inland Revenue service, and payment is made to designated banks.

Non-resident companies are subject to withholding tax (WHT) deductions on the income they earn from Nigeria.

Special Reduced Rate

A special reduced rate of 20% applies to the following types of companies in Nigeria:

i) Companies engaged in agricultural production or mining of solid minerals in the first 5 years of business, if turnover is not more than NGN 500,000.

ii) Manufacturing companies and companies engaged wholly in export, within the first 5 years of operation, provided that their turnover is less or equal to NGN 1 million.

Tax Incentives and Exemptions

The following companies in Nigeria are also given tax incentives and exemptions to boost their investments:

i) Pioneer Companies: The Industrial Development (Income Tax Relief) Act makes provision for the grant of tax relief to pioneer companies.

ii) Export Free Zone Exempt Profit: A company that has incurred expenditure in its qualifying building and plant equipment in an approved manufacturing activity in an Export Processing Zone is granted 100% capital allowance in any year of assessment.

iii) Solid Minerals Mining: Part IV of the Minerals and Mining Decree 19 gives various tax incentives to operators in the solid minerals mining sector.

iv) Hotels Income Exempt from Tax: An exemption of 25% of income in convertible currencies is derived from tourists, provided the income is utilized within 5 years for the building or expansion of new hotels, conference centres and new facilities for tourism development.

v) Locally Manufactured Plant: A 15% investment tax credit is allowed for a company producing manufactured plant, machinery or equipment.

vi) Replacement of Obsolete Plant.

2.5.1 Tax Appeal Tribunal (TAT)

The Tax Appeal Tribunal (TAT) is established in accordance with Section 59(1) of the Federal Inland Revenue Service (Establishment) Act 2007. The Tax Appeal Tribunal was formally implemented pursuant to the Tax Appeal Tribunals Establishment Order 2009, issued by the minister of finance of the Federal Republic of Nigeria, as published in the Federal Government Official Gazette No 296, Vol. 96 on 2nd December 2009.

The Tax Appeal Tribunal arbitrates on all tax disputes arising from operations of the various tax laws as indicated in the Fifth Schedule to the Federal Inland Revenue Service Establishment Act. Specifically, the Fifth Schedule states that TAT has jurisdiction over disputes arising from the following laws:

i) Companies Income Tax Act (CITA); ii) Petroleum Profit Tax Act (PPTA); iii) Personal Income Tax Act (PITA); iv) Capital Gains Tax Act; v) Stamp Duties Act; vi) Value Added Tax Act; vii) Taxes and Levies (Approved list for collection) Act; as well as other laws, regulations, proclamations, government notices or rules related to these Acts.

The Service, if aggrieved in relation to any person in respect of any provisions of the tax laws, may file an appeal at the appropriate zone of the Tribunal.

Any party dissatisfied with a decision of the Tribunal may appeal against such decision on a point of law to the Federal High Court upon giving notice in writing to the Secretary within 30 days from the date on which such decision was given.

Upon receipt of a notice of appeal, the Secretary shall cause the notice to be given to the Chief Registrar of the Federal High Court, along with the record of proceedings and all the exhibits tendered at the hearing before the Tribunal.

The fees set out in the Second Schedule to these Rules shall be payable in respect of matters to which they relate.

Penalties

Any person who is obliged to deduct any tax under Act or the laws listed in the First Schedule to this Act, but fails to deduct, or having deducted, fails to pay to the Service within 30 days from the date the amount that was deducted o the time the duty to deduct arose, commits an offence and shall, upon conviction, be liable to pay the tax withheld or not remitted in addition to a penalty of 10 per cent of the tax withheld or not remitted per annum and interest at the prevailing Central Bank of Nigeria minimum re-discount rate and imprisonment for period of not more than three years.

The Tax Appeal Tribunal is established in eight zones to cover the six geo-political zones in Nigeria, which are Abuja, Lagos, Ibadan, Benin, Enugu, Kaduna, Jos and Bauchi. The coordinating secretariat secretary is the administrative head and chief accounting officer of the tribunal. Located in Abuja, the central coordinating office renders support services and facilitates the operations of the respective zones; this office has the following six (6) functional units:

i) Tax Records/Case Flow Management

ii) Publicity and Communications

iii) Tribunal Administration

iv) Facility Management

v) Accounts and

vi) Audit

The Board of Tax Appeal Tribunal (TAT)

The Board shall consist of (a) "the Executive Chairman of the Service who shall be experienced in taxation as Chairman of the Service to be appointed by the President and subject to the confirmation of the Senate; (b) Six members with relevant qualifications and expertise who shall be appointed by the President to represent each of the six geo-political zones; (c) a representative of the Attorney-General of the Federation"; (d) the Governor of the Central Bank of Nigeria or his representative; (e) a representative of the Minister of Finance not below the rank of a Director (f) the Chairman of the Revenue Mobilization, Allocation and Fiscal Commission or his representative who shall be any of the Commissioners representing the 36 States of the Federation; (g) the Group Managing Director of the Nigerian National Petroleum Corporation or his representative who shall not be below the rank of a Group Executive Director of the Corporation or its equivalent; (h) the Comptroller-General of the Nigeria Custom Service or his representative not below the rank of Deputy Comptroller-General; (i) the Registrar-General of the Corporate Affairs Commission or his representative not below the rank of a Director; and j) the Chief Executive Officer of the National Planning Commission or his representative not below the rank of a Director.

2.6 Challenges in Company Income Tax Collection in Nigeria

Nigeria has a long history of relying on the taxation of primary products. Before the oil price boom of the early 1970s, the country had generated most of its revenue from agricultural exports. According to the International Monetary Fund (2003), "the Nigerian economy is heavily dependent on its oil sector, which accounts for over 95 percent of export earnings and about 40 percent of government revenues, and tax revenue had never played a strong role in the country's management of fiscal policy". "The country depended on the oil industry for 80% of its revenue, and Obasanjo's government recognized the need to broaden Nigeria's revenue base because, in the event that the oil prices change or production levels fall, there could be economic problems and if government did not look at how to build a sustainable revenue base, every other developmental plan, objective, and goal could not be met" (Omigui–Okauru, 2011).

According to the World Bank (2006), Nigeria's tax revenue accounted for 0.18% of gross domestic product in 2005, compared to 17.61% for all of Sub-Saharan Africa. By the early 2000s, the Nigerian government limited domestic spending to the amount of revenue collected, as part of efforts to reduce the country's debt; further borrowing was not an option. The cash budget system, intended to reduce the budget deficit and improve fiscal discipline, caused unpredictable fluctuations in appropriations to ministries. The reforms fitted the president's political and economic agenda. The government had to increase the autonomy of tax authorities and closely review all tax legislation, including provisions for incentives and waivers in order to strengthen tax administration personnel and develop a new tax policy. The reorganisation of FIRS to ensure efficiency and effectiveness began after internal reviews and discussions.

FIRS faced challenges in leading a reform of Nigeria's tax administration, such as tax consultants earning high salaries under the existing system,a lack of reliable funding and being grossly underfunded. In addition, political wrangling often delayed the federal budget's approval, leaving FIRS without funds to pay its staff, and employees' skills were out of date because FIRS had not provided training courses for more than a decade. Additionally, there were significant problems with regard to capacity; the ratio of licensed tax professionals to support staff was low, as only 12.6% of the 7,600 staff held certifications from an accredited tax institution because the Federal Civil Service Commission made all personnel decisions and FIRS had little control over hiring, training and discipline. In the past, both state and federal tax agencies had contracted private tax consultants to collect payments in exchange for a cut of 10% - 20% of each tax bill. The practice continued even after the government passed legislation to ban the use of consultants in 1998. Corruption signalled the inability of the central office to monitor and control the operations in its component departments and regional offices. Although the government collected nearly 700 billion naira (US $4.5 billion) in 2003, hundreds of unregistered businesses did not pay taxes and many registered firms evaded levies.

Legislation established the Federal Inland Revenue Service's autonomy and it was given the opportunity recruit its own staff, expand its capacity and automate the collection process in order to reduce corruption and improve taxpayer compliance. The use of ICT in CIT collection curtailed corruption by reducing the interaction between staff and taxpayers and increasing the Federal Inland Revenue Service's monitoring and tracking capabilities

The next section will discuss tax reforms.

2.6.1 Tax Reforms

Nigeria has experienced a series of tax reforms since 1904. The effects of the various reforms in the country are as follows:

i) Introduction of income tax in Nigeria between 1904 and 1926

ii) Granting of autonomy to the Nigerian Inland Revenue in 1945

iii) The Raisman Fiscal Commission of 1957

iv) Formation of the Inland Revenue Board in 1958

v) Promulgation of the Petroleum Profit Tax Ordinance No. 15 of 1959

vi) Promulgation of the Income Tax Management Act 1961

vii) Establishment of the Lagos State Inland Revenue Department

viii) Promulgation of the Companies Income Tax Act (CITA) 1979

ix) Establishment of the Federal Board of Inland Revenue under CITA 1979

x) Establishment of the Federal Inland Revenue Service between 1991 and 1992

xi) Tax policy and administration reforms amendment 2001 and 2004

The 1978 tax reform brought about the issue of reforming taxes and expanding the scope of the tax clearance certificate, which led to the promulgation of the Company Income Tax Act 1979 (popularly known as Tax 1979).

The second tax reform was surgical and was the promulgation of another tax law, the Finance Miscellaneous Taxation Provision Decree no. 6 of 1993. It designated - FIRS as an

operational arm of the Federal Board of Inland Revenue. Initially, it operated as a "technical committee of the board", not only at the federal level but also at the state level. Its purpose was to advise the board on technical matters in taxation. It introduced a change in nomenclature of the headship of FIRS to the executive board. Prior to the 1991 tax reform, the chairperson of FIRS was simply a chairman, and not an executive chairman, but the reform reconstituted the board of FIRS and expanded the number of members of the board from ten to fifteen.

The following were current tax reforms in Nigerian tax system:

- organisational restructuring of the federal and state authorities;
- the enactment of a national tax policy;
- reforms in funding;
- legislation;
- taxpayer education;
- dispute resolution mechanism;
- taxpayer registration;
- human capacity building;
- automation of key processes;
- refund mechanism, and
- introduction of the unique Taxpayer's Identification Number (TIN) in February 2008.

According to Somorin (2012), "some specific objectives of Nigerian tax reform include: expanding the tax base and discouraging capital flight; removing coercion in tax collection; promoting voluntary compliance; embedding tax payment in the national psyche; eliminating multiple and nuisance taxes; ensuring zero-tolerance for corruption in revenue authorities; balancing taxing powers and fiscal burdens; reducing the cost of doing business;

attracting foreign investment; curbing tax evasion/avoidance; ensuring convenience of taxation, and aiding voluntary compliance".

In a more recent development, Ogbonna and Ebimobowei (2011) examined the impact of tax reforms on the economic growth of Nigeria from 1994 to 2009 and revealed that tax reforms are positively and significantly related to economic growth, and that they lead to economic growth. They also revealed that tax reforms improve the revenue generating machinery of the government when undertaking socially desirable expenditure that will translate into economic growth in real output and on a per capita basis. The study failed to explain if "the revenue generating machinery" includes IT usage. According to PWC (2010), "online filing and tax payment should be introduced to reduce the compliance time and the associated cost and it will help reduce human interaction between the taxpayers and the tax officials, which could also help in checking sharp practices".

According to Oloyede (2009), "the recent reforms include the introduction of TIN, (unique Taxpayer's Identification Number, which became effective in February 2008), an automated tax system that facilities tracking of tax positions and issues by individual taxpayer, E-payment system which enhances smooth payment procedure and reduces the incidence of tax touts, Enforcement scheme (Special Purpose Tax officers), this is a special tax officers scheme in collaboration with other security agencies to ensure strict compliance in payment of taxes".

However, tax reform in developing countries involves economic policy; problems of tax structure design and administration, and "these countries have then had to reform their tax structures, with the general objectives of revenue adequacy, economic efficiency, equity and fairness, and simplicity" (Osoro, 1993). The main factors that contribute to better revenue management are changes in tax legislation, tax administration and minimal tax evasion. This

study considers tax reforms in terms of organisational reforms, as well as tax system design and economic operations reforms.

2.6.2 Organisational Reforms

According to Engelschalk (2000), "Radical improvement in tax administration requires changes in organisation and methods, and modern IT greatly facilitates the needed transformation" "The study of the enforcement efficiency of the income tax department in India identified the following problems: poor use of information collected by the central intelligence branch; ineffectiveness of surveys of business premises; absence of an adequate system of taxpayer identification numbers; absence of an adequate system of third-party information collection; and deficiencies in the record-keeping system" (Das-Gupta *et al.*, 1992).

As noted by the International Monetary Fund (2003), "developing countries must be able to raise the revenues required to finance the services demanded by their citizens and the infrastructure (physical and social) that will enable them to move out of poverty". As a means of meeting their expenditure requirements, many developing countries undertook tax reforms in the 1980s. However, most of these reforms focused on tax structure instead of tax administration, which generates additional revenue.

"Autonomy from the civil service has been a major feature of reform in a subset of countries in Latin America and Africa, with a particularly strong push from donors, and this agenda has been pursued in the hope of improving performance by reducing political interference, increasing flexibility and improving wages and conditions of work" (Fjeldstad, 2002, 2005).

In sub-Saharan Africa, "the visible face of revenue administration began to change markedly in the early 1990s, ARAs were created to increase government revenues; they have contributed little to that goal" (Fjeldstad and Moore, 2009).

The following countries have established their Autonomous Revenue Authorities (ARAs): Ghana (1985), Uganda (1991), Zambia (1994), Kenya (1995), Malawi (1995), Tanzania (1996), South Africa (1997), Rwanda (1998), Zimbabwe (2001), Ethiopia (2002), Sierra Leone (2002), Lesotho (2003), The Gambia (2005) and Mauritius (2005). Several others are likely to emerge soon, including Burundi and Mozambique. The revenue administration reforms in African countries are summarised as follows:

Country	**Major TA reforms**
Benin	Improving large and medium taxpayers' compliance
Botswana	Tax and customs modernization
Burundi	Setting up a unified semi-autonomous revenue body and implementing VAT
Ethiopia	Process improvement, integrating and modernizing revenue administration with new technology
Ghana	Setting up a unified semi-autonomous revenue body and integrating domestic TA
Kenya	Computerizing integrated domestic tax operations and strengthening of customs administration
Malawi	Process improvement, computerizing domestic TA, and compliance management
Mauritius	Modernizing tax and customs systems (IT)
Rwanda	Compliance management based on risk assessment and integrating administration of social contributions with TA
Senegal	Establishing medium taxpayers' offices and reforming small business taxation
Sierra Leone	Modernizing customs and introducing VAT (GST)
South Africa	Improving compliance management and small taxpayers' administration
Tanzania	Modernizing customs and strengthening domestic TA (medium and small taxpayers'

	administration)
Uganda	Modernizing customs systems and process review/computerizing domestic tax operations
Zambia	Integrating TA, strengthening the large taxpayers' office, and performance management

Table 2.2: Major revenue administration reforms in Africa (ongoing)
Source: Adapted from the International Tax Dialogue (ITD, 2010:37)

In addition, some state governments in Nigeria have granted autonomy, at least in principle, to the internal revenue boards that collect state level taxes and to FIRS to collect taxes due to the federal government. However, "while semi-autonomous revenue authorities (ARAs) diff er from one country to another in many details, they share significant features" (Fjeldstad, 2003, 2006; Hadler, 2000; Mann, 2004; Taliercio, 2004b; Terpker, 1999; Therkildsen , 2004; von Soest, 2006, 2008).

Wadhawan and Gray (1998) posit that uneven tax administration in Africa is a major contributor to revenue shortfalls that augment inflationary pressure while depriving governments of resources that provide public goods. Its implications for economic stability and growth might do the following:

i) enhance the willingness of agents to meet their legal liabilities;

ii) increase the effectiveness of tax services in enforcing the law; and

iii) provide guidance to policymakers on directions for tax reform.

"The electronic service delivery capability of tax authority in sub-Saharan Africa, however, is embryonic and in need of immediate consideration and support, if Sub-Saharan Africa is not to fall further behind the developed world" (Hadler, 2000). Any good tax reform depends on

the high-quality use of information and the organization of taxes to better attain developmental purposes.

2.6.3 Tax System Design and Economies Operations Reforms

"Tax structure has been at the forefront of most tax debates and since the 1980s the focus has been on achieving economic neutrality – that is, minimising economic distortions caused by taxation – and maximising revenue collection" (Prichard, 2010).

Pinhanez (2007) examines in detail how the nature of the value-added tax (VAT) – the principal tax of Brazilian states – shaped IT, organisational redesign and human resource policies in its tax administrations. "The main elements of the reform programmes include: imposing a small number of taxes with the broadest possible base and moderate rates (World Bank, 1990) [and] using VAT to replace commodity taxes in order to minimize disincentives for investments and exports" (Thirsk, 1991). These elements not only prevent raising taxes on the poor, but they also reduce tax burdens on the poor. This is achieved by levying excise duties on luxury items and exempting foodstuffs to protect low-income groups, avoiding tax incentives and shifting to broader, simpler tax bases on which lower rates are applied. Therefore, this minimises corporate tax evasion (some countries levy minimum taxes on a company's net worth) and reduces distortions that affect economic welfare and growth.

Ngerebo and Masa (2012) examine the tax system in Nigeria (a case study of value added tax). The objective of their study was to appraise the usefulness of the tax system in Nigeria, using the value added tax system as a reference point. The survey method and secondary method were used for collection data. The findings reveal that:

(a) the value added tax system was neither effective in generating revenue for public sector activities, nor was it efficient in directing the consumption pattern of the economy, when appraised with the gross values;

(b) These assertions are based on the fact that the VAT-GDP-Standard VAT Rate was just about 33 percent;

(c) Similarly, the VAT-TCE-Standard Vat Rate was also very low within the 11 years studied, since it is just about 39 percent.

The study identified three groups of parameters that can be used to measure the effectiveness and efficiency of any tax system. The study also highlighted some of the difficulties that can confront the appraisal of any tax system; it identified two measurement tools, which are revenue generating capability and the fiscal policy ability of the tax system. The findings also revealed that the VAT system in Nigeria has been effective in generating more than expected revenue, but it is not efficient in directing or influencing consumption expenditure of Nigerian citizens.

Oil revenue accounts for over 80% of Nigeria's total revenue, whereas the remaining 20% is contributed by the non-oil sector (taxation). According to Ayuba (2014), the "oil sector share in total revenue was 54.4% in 1972, [compared to the] 45.6% share from the non-oil sector the same year; in 1974 oil share of total revenue had reached 82.1% while only 17.9% accrued from non-oil sector; following the glut in the world oil prices in the later part of the 1970s, the oil share in total revenue fell to 61.8% in 1978 while non-oil sector's share rose to 38.2%; as from 1984, the oil sector share in total revenue has continued to rise, though with occasional falls in between periods; by 2006, oil share of total revenue had reached 88.6%

against non-oil share of 11.4%; and as at 2009, oil sector share in total revenue stood at 78.8% while non-oil sector accounted for just 21.3% of the total revenue (CBN, 2010)".

Ayuba (2014) examined the impact of non-oil tax revenue on Nigerian economic growth The study's objective was to analyse the impact of non-oil tax revenue on economic growth from 1993 to 2012 in Nigeria. The study used relevant secondary data from the 2012 Statistical Bulletin of the Central Bank of Nigeria (CBN). The findings of the study revealed that positive impact of non-oil tax revenue on economic growth in Nigeria exists. It found that economic growth was proxied by real gross domestic product, whilst non-oil tax revenue was proxied by taxes such as companies' income taxes, personal income tax, capital gains tax, stamp duty, valued added tax, customs and excise duties, amongst others. The results confirm that an increase in non-oil tax revenue will lead to a proportionate increase in real gross domestic product, thereby growing the economy. The study recommended that the government should also use taxpayers' monies for infrastructural facilities, which will no doubt boost the incentive to pay taxes, and tax authority staff should be adequately motivated in order to enhance revenue generation. The study also recommended that efforts should be intensified by the government at all levels to increase collection of non-oil taxes, especially from the informal sector; the increase in payments would then have the capacity to grow the economy.

2.7: Taxation Theories

A taxation theory is resting on the assumption that there need not be any association between tax paid and benefits received from state actions. It justifies the imposition of taxes for financing state activities at the same time provides a basis for apportioning the tax burden between members of the society.

i) Socio political theory states that social and political objectives should be the major factors in selecting taxes. The theory advocated that a tax system should not be designed to serve individuals, but should be used to cure the ills of society as a whole.

ii) Expediency theory asserts that every tax proposal must pass the test of practicality and must be the only consideration weighing with the authorities in choosing a tax proposal. Economic and social objectives of the state as also the effects of a tax system should be treated irrelevant (Bhartia, 2009).

It proceeds on the assumption that there is basically an exchange relationship between tax-payers and the state and it enables the state to provide certain goods and services to the members of the society and they contribute to the cost of these supplies in proportion to the benefits received. Anyanfo (1996) argues that taxes should be allocated on the basis of benefits received from government expenditure. However, cost of service theory is similar to the benefits received theory. It emphasizes the semi commercial relationship between the state and the citizens largely. This theory is being asked to give up basic protective and welfare functions. It is to scrupulously recover the cost of the services and therefore this theory implies a balanced budget policy. The theory states that one should be taxed according to the ability to pay and simply an attempt to maximize an explicit value judgment about the distributive effects of taxes. Bhartia (2009) argues that a citizen is to pay taxes just because he can, and his relative share in the total tax burden is to be determined by his relative paying capacity. Expert of group United Nations (2000) stated that, tax revenue contributes substantially to development and therefore, there is the need to streamline a nation tax system so as to ensure the realization of optimal tax revenue through equitable and fair distribution of the tax burden.

2.8 Using Electronic Systems to Administer Company Income Tax in Nigeria

"The e-tax payment system allows tax data entry, automated processing, computation and analysis as well as automatic production of tax reports and feedback required for control risk management purposes" (Moore, 1999, Holniker, 2005, Partch, 1997). According to Faniran and Olaniyan (2009), electronic governance (or e-governance) by definition and design aims to bridge the gap between government, citizens and businesses through the use of IT by lowering transaction costs and reducing information asymmetry, ultimately eliciting feedback from citizens while delivering public services more efficiently. There are six logical steps involved in TA:

i) Identification/Registration
ii) Assessment
iii) Collection
iv) Accounting
v) Monitoring/Audit
vi) Enforcement

"ICT makes it possible to automate all the above processes fully or partially, as required" (Omoigui-Okauru, 2010).

Tax Identification Number (TIN)

Tax Identification Number (TIN) benefits are as follows:

i) It fills the existing loopholes in the country's tax system.
ii) It enhances taxpayer identification and registration and brings more taxpayers into the tax net.

iii) It minimises errors and mistakes linked to manual registration

iv) The issues of double tax, a major challenge to taxpayers and administrators, have been eliminated with the use of the Tax Identification Number (TIN).

v) Information sharing among relevant agencies in the country is enhanced.

vi) It reduces the cost of tax compliance, consequently leading to greater accuracy in capturing taxpayer data.

vii) It facilitates a more efficient system of tax assessment and collection.

viii) It enables voluntary compliance and allows tax authorities to focus on review and verification of claims by taxpayers.

ix) It has reduced leakages in tax collection and corruption in the tax system.

x) It enables the tax authority to determine the actual income and taxes of all registered taxpayers.

In FIRS, "several technology-based initiatives have been implemented in the last six to seven years, which have yielded significant dividends in improved tax collection, increased taxpayer confidence in the tax system, increased efficiency in tax operations and led to reduction in leakages" (Omoigui-Okauru, 2011). However, "IT is being deployed rapidly in the delivery of public services even in developing countries such as Chile, Brazil and India with its consequent effect on society; some countries, including Nigeria, seem to be slower in pursuing e-Government practices" (Folarin and Olaniyan, 2009).

Adebisi (2010) examined the problem of tax administration in Nigeria and appraises the performance of the Kogi State Board of Internal Revenue. The study used questionnaire and interview methods. The findings revealed that there are problems in tax collection, such as a lack of power by the Revenue Appeal Courts, poor communication systems, poor staff training and equipment, fraudulent practices, lack of supervisors and so on. The study failed

to incorporate the use of ICT. The sample used one state out of 36, which may not allow the results of the study to be generalized. The findings also revealed that the monitoring mechanism in the system has been greatly improved over the years, and the shortfall from the federation account has been augmented with taxes collected in the state.

Moreover, "there is insufficient research on e-commerce in developing countries like Nigeria and limited understanding of the underlying factors that affect its adoption" (Chiemeke and Evwiekpaefe, 2011).

However, "technology, the automation of the tax system, procedures and processes and the use of electronic platforms is the future of TA in Nigeria" (Omoigui-Okauru, 2011).

Okoye and Ezejiofor (2014) examined the impact of e-taxation on revenue generation in Enugu, Nigeria. The objective of the study is to ascertain whether e-taxation can resolve the issue of tax evasion and to prevent corrupt practices of tax officials in Nigeria. The study used both primary and secondary methods of data collection. The findings of the study revealed that e-taxation can enhance internally generated revenue and reduce tax evasion in Enugu State. It also found that E-taxation can prevent corrupt practices of tax officials. The study suggested that e-tax administration is still low, and some tax administrators and taxpayers are still not aware of the online tax assessment/collection in Nigeria; this is relevant to the current study. The findings of the study cannot be generalised within Nigeria, since Enugu is one of the 36 states in Nigeria.

Samuel and Tyokoso (2014) examined taxation and revenue generation through an empirical investigation of selected states in Nigeria. The objective of the study was to assess taxation and revenue generation in Nigeria, the contribution of taxation to revenue generation in Nigeria; to ascertain the extent to which tax evasion and tax avoidance has negatively

affected revenue generation in Nigeria and to examine the extent to which taxation has contributed to the steady growth in gross domestic product in Nigeria. The study used survey research designs such as questionnaires, interviews and observation methods. The findings of the study revealed that taxes are one of the major tools used for revenue generation by federal, state and local governments in Nigeria. The researchers agreed with Aguolu's (2004) assertion that taxation is the most important source of revenue to the governments, since taxation is certain and consistent. The findings also reveal that taxation has impacted revenue generation in Nigeria, and tax evasion and tax avoidance has negatively impacted revenue generation. This study has a identified significant contribution to gross domestic product of Nigeria, but failed to consider the use of ICT in tax collections and operations.

Suleiman *et al.* (2010) investigated e-government in Nigeria as a catalyst for national development. The study aimed at examining how the introduction of e-government can change the value chain and productivity in government within the Nigerian context. The study used the secondary method. The findings of the study reveal that e-government related polices should be formulated in such a way that they only provide a broad framework. The study identified the following as the deliverables of e-government in Nigeria, as stated in the National Information Technology Development Agency (NITDA):

i) Increased transparency on the part of the government;

ii) Reduced cost of governance;

iii) Potential for projects that create value to investors;

iv) Services that are faster, cheaper and easier for the government, businesses and allcitizens;

v) Better productivity by employers;

vi) Wealth and job creation for investors;

vii) Better informed citizens;

Suleiman *et al.* (2010) posited that within each of these tax interaction domains, as depicted in Figure 2.3 (p. 55), the four kinds of activities that take place are as follows:

i) pushing information over the internet such as tax regulatory services, tax laws, conference and seminar schedules, issue briefs, notification tax rates, due dates, etc.;

ii) two-way communications between the agency and a citizen, a business or another government agency;

iii) conducting transactions, such as lodging tax returns and applying for services and grants;

iv) governance such as online tax information, tax laws and other tax regulations.

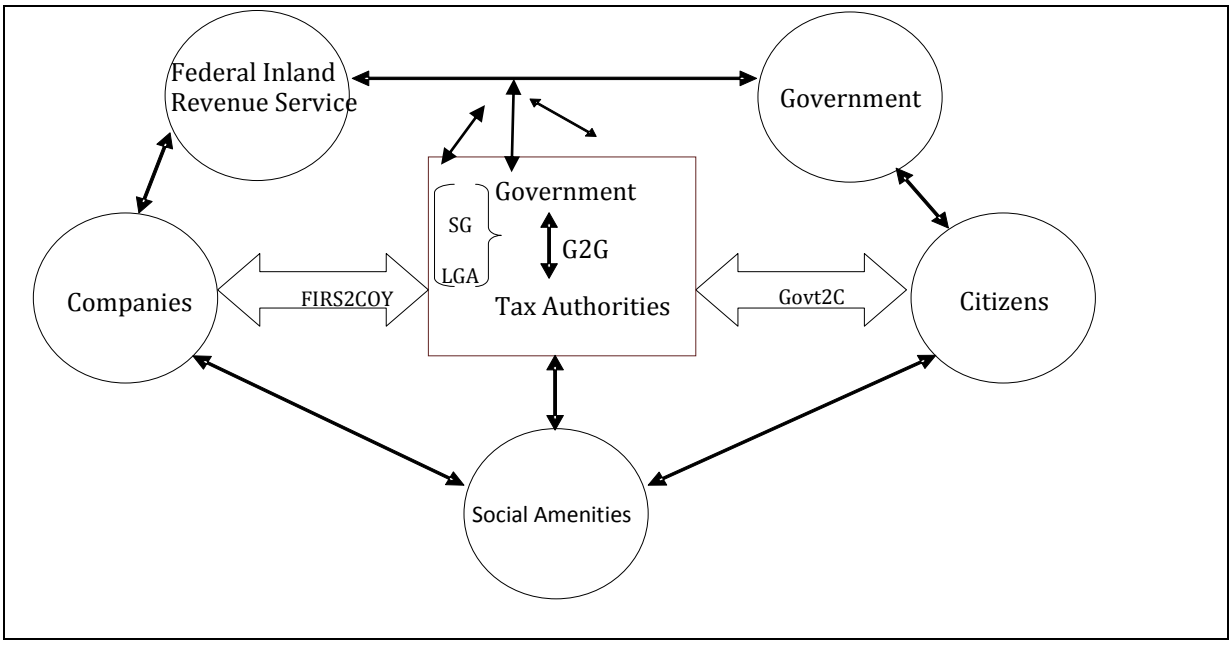

Fig. 2.3: Domains for e-Government and Tax System in Nigeria
Source: Adapted from Suleiman *et al.* (2010)

2.8 Chapter Summary

This chapter examined existing components of taxation in Nigeria, together with the historical background. The next chapter will provide a literature review in order to develop a clear understanding of the impact of ICT on CIT in developing countries, particularly Nigeria. The rest of this study will cover the following: Chapter 4: The Review of Relevant Theories; Chapter 5: Methodology; Chapter 6: Data Analysis; and Chapter 7: Conclusions, Recommendations and Future Studies. The next chapter deals with prior studies that are relevant to this current study, in order to identify the existing body of knowledge and useful policy formulation by focusing on aspects that are important for the adoption of e-Government services (e-tax).

Chapter Three
Literature Review

3 Introduction

The main purpose of this chapter is to critically review the relevant existing literature in order to develop a strong understanding of the impact of ICT on company income tax collection in Nigeria. This section is organised as follows: an overview of company income tax, e-government, e-tax, e-filing, e-payment and emergence of the research propositions from the literature. The chapter concludes with a summary.

3.1 An Overview of Company Income Tax

In recent years, as economic activity becomes increasingly integrated, the taxation of corporate income needs to be considered in an international context. Multinational corporations that have both operations and the ability to raise capital in several countries have been increasingly dominating business activity.

"Company Income Tax is a tax on the taxable profits of limited companies and some organisations including clubs, societies, associations, co-operatives, charities and other unincorporated bodies" (Abiola, 2010). A "corporation" is a legal entity created under a state or other statute that allows 'incorporation' by persons who become the 'shareholders' of the corporation, and for tax purposes, a corporation is a separate 'taxpayer' from its shareholders, meaning that the corporate entity is subject to taxation on corporate-level events" (Lederman, 2002). "Corporate income tax (also called company income tax in Nigeria) is designed as a tax on corporate profits (also known as net income) and broadly defined, corporate profit is total income minus the cost associated with generating that income" (Keightley and Sherlock, 2012).

"The key priority for corporate income tax is to contribute to higher economic growth and productivity through promoting corporate investment and competitiveness" (CEFP, 2007). According to OECD (2008), "the main reason for imposing corporate income tax is that it plays an important withholding function such as:

i) it acts as a 'backstop' to personal income tax. In the absence of corporate income tax, corporate earnings would escape taxation until they are paid out in the form of dividends or the shareholder realises his capital gains (where capital gains tax is applied). Therefore, by levying corporate income tax, the authorities reduce the opportunities for shareholders to shelter their income from taxation. It reduces the tax-induced incentives for businesses to incorporate and to transform highly taxed labour income into lower-taxed capital income

ii) it serves to ensure a comprehensive income tax system

iii) it acts as a withholding tax on equity income earned by non-resident shareholders, which might otherwise escape taxation in the source country".

Buettner and Fuest (2010) analysed the effectiveness of corporate income tax as an automatic stabilizer. They employed a unique firm-level data set of German manufacturers, combining financial statements with firm-specific information about credit market restrictions. The study focused on corporate tax for a number of reasons, such as the base of corporate income tax is smaller than that of the personal income tax, but its volatility over the business cycle is much higher; its potential contribution to overall automatic stabilization may therefore be more significant than its share in tax revenue suggests. Secondly, the automatic stabilization properties of corporate income tax raise some policy issues, in particular the role of inter-temporal loss offset, which is less pressing in the context of personal income tax. Thirdly, the

role of corporate income tax in automatic stabilization has been largely neglected in the literature. The findings of the study revealed that approximately 20 per cent of all firms report both positive taxable income and capital market restrictions. In addition, the findings revealed that demand stabilization through corporate income tax amounts to about 8 per cent of an initial shock to gross revenues. The results, which have been derived from German data, may not apply to other countries. Most European countries have lower statutory corporate tax rates, so the potential for stabilization effects is lower. However, other countries, particularly with lower GDP per capita and less developed capital markets, may exhibit a larger share of credit-constrained firms. The implication of the study is that there may be yet another cost of the downward trend in corporate income tax rates induced by international tax competition: weakened automatic stabilizers. Moreover, the study analysis highlights a cost of crowding back loss offset provisions, in particular loss carry-back possibilities: restricting loss offset reduces the automatic stabilization effects of the tax system.

In another related study, Bird (1996) identified seven arguments on why tax should be levied on corporations, including: (i) some taxation of foreign capital income may be desirable for exploiting international market power (MacDougall, 1960). That is, since the international supply of capital is not perfectly elastic, there is some room for nationally non-distortionary taxation; (ii) when economic profits (rents) are not fully taxed under the domestic tax system in both capital-exporting and capital-importing countries, both countries should impose taxes on foreign capital (Bruce, 1992); (iii) if other production inefficiencies exist, such taxes may be warranted on efficiency grounds, even if economic profits are fully taxed (Hartman, 1986). As Findlay (1986) notes, "the non-optimality of taxes on non-capital income in most countries provides one reason why taxes on foreign income may be required." Another argument is that (iv) from a more narrowly national perspective, in all instances in which

multinational firms reap "location-specific rents", source countries can impose taxes on such profits without affecting investment (Bird, 1986); (v) taxes on international capital flows may be used to exploit revenue transfers from capital-exporting countries that have foreign tax credit systems (Bond and Samuelson, 1989); (vi) given political constraints on high direct taxes, a source-based corporation tax may be the best way available to tax immobile factors (Sorensen, 1995); and (vii) "combining several of the earlier efficiency and institutional arguments with a particular equity perspective, such taxes, may be an appropriate way for countries to share the rents earned by international investment" (Musgrave, 1987).

"Corporate income tax is to close some of the gaps in the personal tax system, for example, by imposing some taxation on capital gains as they accrue at the corporate level and it may be useful from a number of different policy perspectives to have a tax instrument through which to influence their economic behaviour" (Bird, 1996).

In line with Nicodème's (2009) study, "the reasons for corporate tax are as follows:

i) Benefit principle- Individuals and companies consume public goods – in particular infrastructures – and benefit from public interventions, such as education of workers or a judiciary system based on the rule-of-law, and it would seem normal that companies pay taxes as a compensation for those services.
ii) Tax exporting is based on questioning the assumption of perfect mobility of capital and there are complementarities between capital and a less mobile factor. Huizinga and Nicodème (2006) show a strong positive relationship between the share of foreign shareholding in a country and the average corporate tax burden.
iii) Treasury effects - The third reason for having a corporate income tax is linked to so-called treasury effects generated by foreign tax credits. Some countries such as the US and the UK apply tax credit systems to relieve double taxation on foreign income.

iv) Erosion of personal income taxes - Corporate taxation is considered to be a backstop for personal income taxation and in the absence of corporate income tax, it would be interesting for individuals to incorporate and avoid taxes on their income.

v) Political constraints may play an important role and the corporate tax base is also smaller than the personal income tax base. According to Sørensen (2007), corporate taxes represent only 3.4% of GDP for the EU-27 in 2006 and 8.5% of total tax collected".

Clausing (2006) examines the role of several factors explaining the variation of the size of corporate income tax revenues relative to GDP among OECD countries from 1979-2002. The analysed factors include statutory tax rate, tax base, corporate profitability, the share of corporate sector in GDP, incentives to shift between the individual and corporate income tax bases and international factors. The study's analysis covers both countries that experienced an increase as well as those that witnessed a decline of the tax-to-GDP ratio. The findings of the study revealed that the tax-to-GDP ratio is greater in countries with big corporate sectors in the economy and in countries with higher corporate profit rates, with the latter effect being stronger. The findings also revealed the small but statistically significant effect of shifting corporate-earned income to non-corporate earned income when the highest personal income tax rate is lower than the corporate income tax rate. Sorensen (2006) and Mooij and Nicodeme (2007) argue that "the rate-revenue paradox may be explained by increasing corporatization on the one hand, caused by subsequent decline of certain sectors in which non-corporate organisational form dominates, and income shifting between personal and corporate income on the other".

The most striking development in corporate taxation over the last twenty years has been a widespread trend towards lower corporate income tax rates.

Keightley and Sherlock (2012) identified "several factors that help explain the declining significance of corporate tax, such as:

i) the average effective corporate tax rate, mostly as a result of reductions in the statutory rate and changes affecting the tax treatment of investment and capital recovery (depreciation);

ii) the increasing fraction of business activity that is being carried out by pass-through (particularly partnerships and S corporations) has led to an erosion of the corporate tax base;

iii) corporate sector profitability has fallen over time, leading to a further erosion of the corporate tax base. Declining corporate sector profitability may be a result of several factors, including a shift within the corporate sector from less volatile to more volatile industries, a shift in the age of corporations from older to younger, and shifting of profits out of the United States and into lower-tax countries;

iv) taxes on corporate income in small open economies are borne not by the owners of internationally mobile capital, but by relatively immobile workers – either in the form of lower wages or lower employment because of lower capital formation".

They also identified that corporate tax revenues in the United States have generally declined and, at the same time, corporate tax revenues in other OECD countries (particularly European countries), have remained relatively stable even in the face of declining tax rates. Some of these countries have adopted base broadening policies to offset tax rate decreases, typically in the form of reduced investment credits, less generous loss offset rules, and limitations on interest deductibility and depreciation.

Alonso and Garcimartin, (2012) examined how tax revenue impacts aid. The objective of this study was to overcome the shortcomings of the aid-tax nexus, such as some of the works failing to implement a prior analysis on the determinants of tax revenues; the possibility that the impact of aid on taxes is conditional upon the institutional quality level of the recipient country is rarely considered; there are hardly any studies that have considered income distribution as a determinant of tax efforts and most if not all of the research using cross-country or panel databases employ only central government revenues. In Alonso and Garcimartin's paper, the panel covers developed and developing countries, and the sample period ranges from 1990 to 2007; each variable was computed as a three year average by using different econometric techniques. The findings of this study suggested that income distribution is a crucial determinant of tax revenue and its exclusion, as is generally the case in tax-aid empirical works, can seriously bias the results; aid does not seem to have any impact on tax revenues. There is a limitation in this study since there is no standard international general government tax database. The study also failed to state the methods employed and to consider the use of ICT.

Addison and Levin (2011) examined the determinants of tax revenue in Sub-Saharan Africa using an unbalanced panel dataset of 39 countries over the period 1980-2005. This study used the GMM approach, and it is argued that the generalized method of moments (GMM) is a better method than ordinary least squares (OLS) or generalized least squares (GLS) (Hayashi, 2000). The objective of the study was to explore the determinants of tax revenue by using a dataset which includes unbalanced panel data of 39 SSA countries over a time period covering the years from 1980 to 2005. The findings of the study revealed that the overall tax to GDP ratio is higher in more open, less agriculture dependent, less populous and peaceful countries. It found that there is evidence of relationships between the effect of openness and

per-capita GDP on the trade-tax GDP ratio, the size of the agricultural sector and foreign aid affects the direct-tax GDP ratio negatively and VAT and a peaceful environment have a significantly positive impact. It also found that the factors that influence tax revenue performance are divided into five aspects, which are the tax base, economic policies, external environment, structural factors and the political environment, including conflict.

McCarty and Bruce (2010) investigated corporate income tax systems and state economic activity. The study objective was to examine the response of economic activity to variations in state corporate income tax policies and to develop a more inclusive model of the components of a state corporate income tax system used in prior literature to more closely account for the complexity involved. The model utilised personal income, gross state product (GSP) and employment to assess the relative importance of each tax policy component to these different measures of economic activity. The findings revealed that the state corporate income tax rate is only an important determinant of economic activity through its interactions with other policy variables, especially throwback rules, and throwback rules are associated with higher levels of personal income and GSP and lower levels of employment. They also found that combined reporting has no effect on personal income or employment but is associated with higher levels of GSP.

"Corporate income taxation can hinder the competitiveness of domestic industry by discouraging local investment in favour of investment in areas where corporate income tax rates are lower or where the tax is not levied and the burden of the corporate income tax is difficult to measure" (Ermasova, 2009).

Dutt (2004) examines the optimization of corporate tax collection in developing countries, with particular application to Mozambique. The objective of the study is to draw attention to the potential impact of deploying best practice tax collection projects in sub-Saharan Africa.

The study used a simple and highly operational model, which may not allow the generalisation of the study findings. The findings of the study revealed that the government does not have the means to generate fair taxes to fight poverty; hence, fair distribution of wealth is in danger, which could lead to further tensions between South and North Mozambique. The findings also revealed that in the case of Africa, and Mozambique in particular, both a top auditing team and a flat fee structure for small businesses could respect principles and guarantee an immediate impact in government revenue collection. The study has some limitations, such as the model possibly being used indiscriminately throughout all sectors of the economy, regardless of company size. The study also failed to consider the impact of ICT on tax collection.

Karagoz (2013) examines determinants of tax revenue to determine if sectorial composition matters. The objective of the study was to determine effective factors on tax revenues in Turkey. The findings revealed that tax revenues in Turkey are significantly affected by agricultural and industrial sector shares in GDP, foreign debt stock, the monetization rate of the economy and urbanization rate, whereas the impact of the agricultural sector's share is negative, as expected. It also found that openness to foreign trade has no significant impact on tax revenues in Turkey. It was suggested that the result of the analysis may be useful in determining whether Turkey is limited in her revenue collections by a low capacity to generate more tax revenues or by an unwillingness to use the available tax capacity to fund public expenditures and to give guidance as to the proper mix of fiscal policy to undertake in the case of budget deficit.

Isa's (2014) study is titled, "Tax complexities in the Malaysian corporate tax system: minimise to maximise". The study's aim was to explore areas of tax difficulties encountered by corporate taxpayers in complying with tax obligations under the self-assessment system.

The study employed the exploratory mixed methods approach. Thematic, descriptive and inferential analyses were used to examine the qualitative and quantitative data. The findings of the study revealed that three dimensions of tax complexity encountered by corporate taxpayers were tax computations, record keeping and tax ambiguity. Two complexity dimensions were faced largely by smaller companies: tax computations and record keeping. However, the least difficult tax-related areas were dealing with tax agents, submitting tax returns within the given time and dealing with the tax authority. This study enabled international tax authorities in general, and the Malaysian tax authority in particular, to have greater confidence in developing and administering tax laws and policies to maintain and increase the overall level of corporate tax compliance.

Devereux *et al.* (2004) examined why UK corporation tax raised so much revenue. The objective of the study was to investigate trends in UK corporation tax (CT) collections over the last 20 years. The national statistics for years 1980-2004 were used. The findings of the study revealed that the primary reason for the strength of tax revenues seemed to be the expansion of the financial sector and, partially as a consequence, a rise in the share of corporate profits in GDP. The findings also revealed that changes in the tax law, such as base-broadening measures through reductions in capital allowances, can explain only part of the puzzle. There is limited understanding about the reasons for the growth of the corporate sector, and it is hard to make predictions for future revenue developments. The study failed to consider the use of ICT in the collection of corporation tax.

Brandstetter and Jacob (2013) examined if corporate tax cuts increase investments. The objective of the study was to investigate the effect of corporate taxes on investment using firm-level data on German corporations after the 2008 tax reform that cut corporate taxes by 10 percentage points. A matching difference-in-differences approach was employed. The

findings revealed that corporate tax changes can increase corporate investment but have heterogeneous investment responses across firms. The results of the study have several implications, such as the ongoing "race to the bottom" in corporate tax rates that not only affects the location decisions and profit shifting activities of multinational firms, but also the investment decisions of both domestic and multinational firms. The results also point toward differences in tax sensitivity across firms, which refer not only to investment policy, but also (potentially) to capital structure decisions.

Chaudhry and Munir (2010) investigated determinants of low tax revenue in Pakistan. The study aimed to empirically analyse the determinants of low tax revenue in Pakistan by employing time-series econometric techniques over the period 1973-2009. This study also investigated whether economic policies, external variables and social indicators, along with tax base elements, can account for part of the variation in tax revenue performance in Pakistan. The findings of the study revealed that openness, broad money, external debt, foreign aid and political stability are the significant determinants of tax efforts in Pakistan. It also found that the determinants of low tax revenue in Pakistan are the narrow tax base, greater dependence on the agriculture sector, foreign aid and the low level of literacy rates. It was concluded that Pakistan's economy can generate a high tax to GDP ratio by boosting openness, literacy levels, political stability and broadening the tax base. Some other noted methods were controlling income inequality, tax evasion and tax exemptions. The study suggested several limitations. It is a very difficult task for Pakistan to design and implement a suitable tax system since Pakistan has a large traditional agriculture sector and other "hard-to-tax" sectors such as small businesses and the shadow economy. The literacy rate is by far the most important element in the success of tax revenue collection, whilst the backbone of an effective tax system is the documentation of the economy. Additionally, taxes yield less

revenue in less literate economies. It is estimated that applying the same tax on agricultural incomes as other sectors would yield substantial revenues over the medium term, and exempting agriculture from taxation imposes a heavy burden on the rest of the economy as well as a significant loss of revenue for the budget. Tax collection requires consistency in implementation, and consistency in implementation comes with political stability. A country with stable law and order would lead to greater investments being brought in and more jobs being created, resulting in greater purchasing power on the part of the consumers who effectively have to pay taxes. Making people aware of the benefits of paying taxes, which increases tax morale, should be implemented as a long run policy implication.

The e-tax payment system is one of the e-government services that have been adopted by many developed countries, and e-government enhances communication between governments and their citizens. E-government is discussed in depth in section 3.2 below.

3.2 E-government

"E-government refers to the automation of government-to-government and government-to-citizen interactions" (Lazer, 2005). The World Bank (2007) defines e-government "as the use of ICT to transform traditional government by making it accessible, transparent, effective and accountable". However, Sprecher (2000) describes e-government as "the production and delivery of government services through IT applications, used to simplify and improve transactions between governments and citizens (G2C), businesses (G2B), and other government agencies (G2G)". Other scholars' definitions of e-government are found in Table 3.1(p.68) below.

Authors	Definition	Focus
UNPAN (2011)	"E-government refers to the use of information and communication technologies (ICT) – such as Wide Area Networks, the Internet, and mobile computing – by government agencies".	Technical
Bwalya (2009)	E-government is the use of ICTs to promote interaction amongst different players (government, citizens and businesses) in the socio-economic hierarchy to promote participatory decision-making, reduction of corruption, facilitating easier and efficient public service delivery, electronic voting (e-democracy) and social inclusiveness.	Governmental
World Bank (2009)	"E-government refers to the use of ICT to improve efficiency, effectiveness, transparency, and accountability of governments".	Governmental
Kumar *et al.* (2007)	E-government is the delivery of improved services to citizens, businesses and other members of the society through drastically changing the way governments manage information.	Governmental
Dada (2006)	E-government is a means of achieving levels of improvement in various areas of government, transforming the nature of politics and relations between the government and citizens	Political
Chen *et al.* (2006)	E-Government is a permanent commitment by government to improve the nature of the relationship between the private citizen and the public sector through enhanced, cost-effective and efficient delivery of services, information, and knowledge.	Service delivery Public sector efficiency
Basu (2004)	E-Government involves the automation or computerization of existing paper-based procedures in order to prompt new styles of leadership, new ways of debating and deciding strategies, new ways of transacting business, new ways of listening to citizens and communities and new ways of organising and delivering information. Ultimately, e-government aims to enhance access to and delivery of government services to benefit citizens	Transformation Access
Ndou (2004)	The use of ICT tools to reinvent the public sector by transforming its internal and external way of doing things and its	Transformation

	interrelationships with customers and the business community.	
Stoltzfus (2004)	A programme that utilizes ICT to improve communication, service, and transactional processes with stakeholders	Internet Communication Service delivery
World Bank (2003)	E-government refers to the use by government agencies of information technologies … that have the ability to transform relations with citizens, businesses, and other arms of government.	Transformation
OECD (2003)	Electronic government refers to the use of information and communication technologies, and particularly the Internet, as a tool to achieve better government.	Technical
Deloite and Touche (2002)	The use of technology to enhance the access to and delivery of government services to benefit citizens, business partners, and employees	Access service delivery
Heeks (2002a)	The use of ICT to improve the activities of public sector organisations	Improvement
Bonham *et al.* (2001)	E-government involves using information technology, specifically the internet, to deliver government information, and in some cases, services, to citizens, businesses, and other government agencies.	Internet information Service delivery

Table 3.1 Definitions of e-Government
Source: Adapted from Maumbe *et al.* (2008:757–777).

The generally accepted definition is that "e-government or electronic government refers to the use of ICTs by government agencies for any or all of the following reasons: i) exchange of information with citizens, businesses or other government departments; ii) speedier and more efficient delivery of public services; iii) improved internal efficiency; iv) reduced costs or increasing revenue, and v) re-structured administrative processes" (Chircu, 2008).

Moreover, electronic government, or e-government, is defined as "the use of information and communication technologies in government to provide public services, to improve managerial effectiveness and to promote democratic values; as well as a regulatory

framework that facilitates information intensive initiatives and fosters the knowledge society" (Gant, 2008:15). In general, both developed and developing countries adopted e-government because "it is cost saving, has greater accountability of the government, increases efficiency, brings shorter processing times, reduces corruption among government employees, lowers the administrative burden and as well brings greater constituency participation" (Howard, 2001; UNDESA, 2008).

"E-government denotes the application of IT to the process of government in order to facilitate the communication and interaction between citizens and businesses" (Lee *et al.*, 2005). The term 'interaction' refers to government services, exchange of information, communication, transactions and system integration (Sundresan *et al.*, 2006). "Electronic government (e-government) is generally referred to as the use of ICT for transforming public organisations to make them more accessible, effective and accountable" (Aichholzer and Gunter, 2006; Deng, 2008; Golra, 2008; Wangpipatwong *et al.*, 2009, and Karunasena, 2012).

Some researchers and practitioners view e-government simply as the use of IT, particularly the worldwide web, through the internet and smart phones to present government information and services to the public; they also consider it to be a tool to better serve society.

These definitions focus on a range of technologies that can be used, and the definitions of e-government are sufficiently broad to incorporate all forms of ICT, including mobile technology. Unlike the traditional bureaucratic model where information flows only vertically and rarely between departments, e-government links new technology with legacy systems internally and in turn externally links government information infrastructure with everything digital. "Access to all official information and service offerings of a public agency

is generally e-government's primary focus. The most important anticipated benefits of e-government in a developing country include improved efficiency, increase in transparency and accountability of government functions, convenient and faster access to government services, improved democracy, and lower costs of administrative services" (Kamar and Ongo'ndo, 2007). Table 3.2 below summarizes the characteristic differences between traditional government and e-government organisations.

Traditional Government	**E-Government**
Bureaucratic controls, clear authority hierarchy	Client service and community empowerment, levelled/blurred hierarchy
Process-centricity	Customer-centricity
Isolated administrative function and data collection	Integrated resource service and knowledge focus
Functional specialisation of units or geographic bias	Breakdown of unit barriers, government integration
Decisions based on uniform rules and awkward reporting approvals	Decisions based on negotiation and implicit controls and approvals
Isolated administrative functions	Integrated resource services
Disjoined information technologies	Integrated network solutions
Time-consuming process	Rapid streamlined responses

Table 3.2 Differences between traditional government and e-Government
Source: Huang *et al.* (2006).

Ai *et al*. (2013) examined e-government and e-governance concepts and constructs in the context of service delivery. The objective of the study was to investigate the concepts and constructs of e-government and e-governance, as well as to gauge the relationship between them with regard to service delivery to citizens. The study used quantitative methods - questionnaires. "Quantitative methods are appropriate when there is a need to apply the sample data to the population in order to find patterns and current trends" (Davidsson and Patel, 2003). The findings of the study revealed that the government failed to respond effectively to the needs of the citizens of Malaysia with regards to quality of service delivery,

as these concepts and constructs among Malaysians are still in question; e-government initiatives can only be implemented with the support and development of ICT and if the government provision is below the expectations of the services, the services provided by the government will be underutilized by the citizens. Services provided by the Inland Revenue Board Malaysia (LHDN) include online payment of individual tax, company tax, employer tax and e-news from LHDN. However, this can only be achieved if the government looks beyond simply providing online services and focuses on portal design and functionality, which need to meet citizens' expectations. The study has the limitation of using a small sample, which included Malaysian citizens who work in the Sarawak region. The target respondents were eligible taxpayers in the public sector and private sector in Sarawak. The current study will use a large sample and will not be limited to a region.

Nisar (2006) examined e-governance in revenue collection and administration. The objective of the study was to investigate the role of e-governance in tax administration, especially when incorporating ICT technologies. A case study of the UK government department of HM Revenue and Customs was used. The study further examined the use of internet service for self-assessment, payment and the Pay As You Earn (PAYE) service for employers. The findings revealed that substantial progress has been made over recent years in developing an effective system of e-taxation by the UK government. It also identified further requirements for the use of ICT in e-taxation and potential for future direction and initiatives. The study covered only a small portion of the problems that face company income collection, and if this study were replicated in developing countries like Nigeria, the result may not be the same.

Lee *et al.* (2011) examined the willingness towards e-government service adoption by business users. The objective of the study was to fill a research gap by addressing the following research question: Why are some businesses more willing to adopt e-government

applications to perform transactions with the government than others? The findings revealed that the willingness to adopt e-government increased when business users perceived high quality service provision in offline service channels. The study findings implied that technology may not successfully "push" potential users to adopt e-government services; offline service quality and the trust users place in the government that provides the service "pulls" users into adopting e-government. The study contributes to the existing research and practices in the field of e-government. Internet technology itself is not a sufficient condition for successful transition into e-government services; instead, high quality service provision in the traditional service channel must be present in order to ensure the willingness and trust of the potential users to adopt the online channel of government services.

Decman *et al.* (2010) examined e-government and cost-effectiveness. The study focused on investment in ICT to simplify tax procedures in Slovenia. The findings revealed that ICT expenditure is higher than cost savings for the tax authority and taxpayers. Nevertheless, several other non-financial benefits are important and should be considered, such as taxpayers' satisfaction, better transparency, easier control and data processing. "There are several issues that must be considered when designing e-taxation and its implementation, such as planning and development at the information use level, as well as support for services offered to taxpayers" (CIAT, 2009). Therefore, the findings of Decman *et al.*'s (2010) study cannot be generalised. The current study will consider other non-financial benefits of e-government and e-taxation in developing countries, especially Nigeria.

"E-government adoption to collect company income tax is important because failures on this front can in the long run seriously hinder the process of modern governance" (Gupta *et al.*, 2004:208). E-government is an indispensable factor in achieving the objective of e-tax.

Cetin *et al.* (2011) examined the systematic review of e-government adoption research. The objective of the systematic literature review was to determine the factors influencing citizens' e-government acceptance. From the models used in the study, the findings revealed that 95 constructs and 149 relations among these constructs were identified, and they were grouped under 16 super structures. The strengths and weaknesses of the investigated studies were listed as suggestions for future research. The results of this study will prove beneficial to direct e-government acceptance research by identifying where the research in the field has saturated and where more research is still needed.

The following table shows some internal challenges of e-government implementation.

Author	**Variables**	**Comments**
Chodhury *et al.* (2006), Altameen *et al.* (2006), Wood-Harper *et al.* (2004) and Themistocleous *et al.* (2005)	Awareness	E-government awareness among leaders, end users, and e-project team
Sang and Lee (2009), Sang *et al.* (2009) and Gilbert *et al.* (2004)	Trust	There is lack of trust between end users and government, and from agency to another
Chowdhury *et al.*, (2006) and Scholl (2003)	Political desire	Lack of political desire can lead to slowing or failure of e-project
Altameem *et al*., (2006) and Scholl (2003)	Cooperation/Collaboration	Stakeholders and government agencies' positive contributions are important to a successful e-project implementation
Sang *et al*. (2009), Altameen *et al.* (2006) and Goings et al. (2003)	Training	Training stakeholders leads to successful implementation
Esteves and Joseph (2008), Layne and Lee (2001), Heeks (2003b) and Cardoso *et al.* (2004)	Scope	Start to end workflow and process on web-portal and e-services is crucial
Lam (2005), Schwester (2009), Ebbers and van Dijk (2007)	Resistance to change	Employees resisting change can lead to e-project failure
Lam (2005), Esteves and Joseph (2008), Goings *et al.* (2003) and Schwester (2009)	Fund/cost	No budget, no project
Lam (2005), Altameem *et al.* (2006), Goings *et al.* (2003) and Schwester (2009)	Privacy/Security	Data and information protection must be safe from unauthorized access
Lam (2005), Esteves and Joseph	Technical skills	Right technical skills are

(2008) and Goings *et al*. (2003)		important to develop/use e-project
Lam (2005) and Sang *et al.* (2009), Themistocleous *et al.* (2005)	Management skills	Leaders' management skills are important for a successful e-project
Chowdhury *et al.* (2006), Sang *et al.* (2009) and Altameem *et al*. (2006)	Vision/Strategy	Top management vision and strategy is important
Goings *et al.* (2009)	Willingness/ ability to use	Stakeholders' willingness and ability to use e-projects is important and leads to successful implementation

Table 3.3: Internal Challenges of E-government Implementation
Source: Al-Rashidi (2010)

Pudjianto and Hangjung (2009) carried out a study on factors affecting e-government assimilation in developing countries. This study was dedicated to helping IT practitioners in the public sector learn how to use the Technology Organisation Environment (TOE) framework for e-government in order to identify, analyse, revitalize strategy, improve decision-making and gain competitive advantage from the implementation of e-government. The findings revealed that the environmental context plays an important role in the assimilation of e-government, followed by organisation and technological factors. It contributes a new understanding and model enhancement for academics, as well as practitioners and policymakers.

In a related case, Dimitrova and Chen (2006) examined profiling the adopters of e-government information and services. The aim of the study was to explore the effects of non-demographic characteristics on the adoption of e-government services in the United States. They used two main theoretical perspectives: Diffusion of Innovations and the Technology Acceptance Model. The findings revealed that non-demographic audience characteristics influenced e-government adoption. The study added to previous research in the area by identifying several socio-psychological characteristics that play roles in the adoption process:

perceived usefulness, perceived uncertainty and civic mindedness. It also ascertained the influence of interpersonal communication and mass media channels on e-government adoption. This study has important policy implications. The government needs to be sensitive to what citizens perceive as the benefits of online information and services. Moreover, disseminating information about existing e-government information and services would be best achieved through mass media channels at the infancy stage of adoption. The sample used in the study does not represent the general U.S. population. Generalizations of the findings to the general population should be made with caution, and this study should be viewed as exploratory. The current study will address this issue of the small sample used.

Martini *et al.* (2010) examined e-services in Albania. The findings revealed that e-government in Albania is still in its early stages, and the efforts made so far towards the electronic dissemination of information have had a positive impact with respect to increased governance transparency. The study failed to indicate the method used. One of the reasons given for the low level of ICT knowledge is the lack of understanding of the benefits that ICT has to offer. This is also relevant to one of the objectives of the study under review, which is to investigate the state of company income tax with existing use of ICT in company income tax collection.

Im (2001) examined using ICT to strengthen government transparency and relations with citizens in Korea. The objective of this work was to support government efforts to strengthen public participation, transparency, democratic accountability, and policy effectiveness through a comparative analysis of policy and practice in OECD member countries – including the use of new tools such as ICT. A case study method was adopted in the study. The findings revealed that ICT has dramatically affected the practice of government; the development of ICT has resulted in greater efficiency in government and in strengthening of

government-citizen connections by ensuring transparency, openness and participation via the internet. ICT has also helped to fundamentally change the context of government. The findings also revealed that government lacks sufficient labour with expertise in ICTs. This is relevant to the study under review, which will determine if the same applies in Nigeria. The results may be different if the study is replicated in different environments.

Dada (2007) carried out a review of academic literature on the failure of e-governance in developing countries. Drawing from extensive research on the topic conducted by Heeks (2006), the study suggested that wide gaps exist between the current reality in developing countries and the future of e-governance systems. These gaps could be classified into three types: a hard-soft gap, implying a gap between the technology and the social context in which it is applied; a private-public gap, suggesting that what works in the private sector may not work in the public sector; and a country context gap, which arises from the application of the same e-governance systems in both developing and developed countries. The study concludes that administrators in developing countries must assess the situation at hand before implementing e-government, which has the benefit of providing clear cut, transparent, interactive, easy to implement and just solutions in the quickest possible timeframe. The above studies have very useful findings for the development and implementation of e-government in Nigeria. Like most developing countries, it has had to contend with the common problems that plague tax systems of developing countries (Karingi and Wanjala, 2005). "The major constraints in the achievement of development objectives are weak governance, corruption and poor infrastructure" (McGrath and Maiye, 2011). The study under review will examine the readiness of Nigerian people for e-government by examining their lifestyles and cultures.

Kaaya (2009) carried out a study on determining types of services and targeted users of emerging e-government strategies in Tanzania. The objective of the study was to explore types of available e-government services and associated targeted user groups with their frequently-used communication channels in Tanzania. The study used a survey method to examine available services and targeted users. One of strengths of this survey was that the answers that respondents gave measured variables effectively and in a standardized manner (Babbie, 2007). The findings of the study revealed that emerging e-government services mostly address internal needs (government-to-government) and one-way dissemination of information (government-to-citizen) and agencies exhibited a gradual extension to businesses (government-to-business) while citizen-to-government and business-to-government relationships were minimal. In addition, the study compared Tanzania's web-presence with select countries, drew its wider implications and advocated further research on the nature and needs of users. One of the limitations of the study is that it only surveys top officials to gain insights on current and future e-government services and associated users, and the findings are based on the perspectives of government officials. The current study will go further by examining services from users' perspectives (taxpayers, tax practitioners and tax officials) and exploring the extent of their awareness of and access to e-tax systems – hence some degree of empowerment. It will have wider implications for other developing countries and related regions since they share many common characteristics.

In another related study, Hassan and Siyanbola (2006) examined e-governance and capacity building in Nigeria with the objective of evaluating the capability of investment into infrastructural and human development of public workers in local government areas. The questionnaire technique was used for data gathering and then analysis using the Statistical Package for Social Scientists (SPSS) tools was adopted as a descriptive measure for the

results obtained. The findings revealed that there is still a dearth of accessibility; it also made clear the level of illiteracy in ICT that exists among public civil servants in the local governments surveyed, which shows that the issues of e-governance in Nigeria are not yet well articulated, despite the federal government's agitation to bridge the digital divide in developing nations like Nigeria. The study addressed issues of governance in terms of global e-governance practices and the level of proliferation in terms of ICT infrastructure and literacy in ICT. However, the study is expected to be further carried out in some of the local governments across the nation, in at least five local governments in each of the six geo-political zones of Nigeria, to be able to assess the impact of ICT in enhancing e-governance in Nigeria fully; therefore, the results may not be the same.

Alabede *et al.* (2011) examined individual taxpayers' attitudes and compliance behaviours in Nigeria. The objective of the study was to determine the relationship between attitudes towards tax evasion and tax compliance behaviour and how such a relationship is moderated by taxpayers' financial conditions and risk preferences. The survey method applied collected data with multiple regressions to analyse taxpayers' opinions. The findings revealed that there is a significant positive relationship between attitudes towards tax evasion and tax compliance behaviour. It equally provided evidence showing that taxpayers' risk preference strongly moderates the relationship between attitude towards tax evasion and tax compliance behaviour. In addition, other findings of the study suggested that the effect of financial condition is not significant to the relationship between attitudes towards tax evasion and compliance behaviour. Similar evidence was also provided for the joint moderating effect of financial condition and risk preference. The study has a number of limitations:

i) the focus of the study was on individual taxpayers, but corporate taxpayers may have different opinions, perceptions and behaviours from individual taxpayers;

ii) the study relied on self-reported behaviour of taxpayers, like most compliance research. The behaviour that taxpayers portrayed under this method may not be a true representation of their actual behaviour (Tanzi and Shome, 1993);

iii) the study only considered the influence taxpayers' attitudes towards tax evasion had on tax compliance behaviour, but the literature has provided evidence to suggest that the influence of attitude towards government as well as the effect of individual religiosity on tax fraud are equally relevant (Stack and Kposowa, 2006);

iv) the study failed to consider the effect that the use of ICT had on individual taxpayers' attitudes and compliance behaviour in Nigeria.

The study provides some guidance for future research into tax compliance behaviour, and it states that more research is needed on moderating the effect of risk preference on the relationship between a taxpayer's attitude towards tax evasion and his/her compliance behaviour to check the consistency of the results produced by the study. In addition, research studies are required regarding taxpayers' attitudes towards government and the effect of individual religiosity on tax fraud, as well as on other factors influencing tax compliance behaviour, particularly in developing countries.

Overall, e-government aims to "centralize and make available a cohesive and seamless set of government services to users" (Lam, 2005: 511). Ndou (2004) and Lam (2005) revealed that the goals of e-government are to facilitate efficiency and effectiveness of government operations, thereby meeting expectations of citizens such as: cost reduction and efficiency gains, quality of service delivery to business and customers, transparency, anticorruption, accountability, increasing capacity of government, network and community creation, which improves the quality of decision making and promotes the use of IT in other sectors of

society. “E-government has developed rapidly around the world over the past decade” (Stojanovic *et al.,* 2006; Nasim and Sushil, 2010; Hassan *et al.*, 2011; Zhao, 2011 cited in Karunasena, 2012), and “this can be demonstrated by the fact that more than 98% of the United Nations member countries have some kind of e-government presence online” (United Nations, 2010). “The rapid development worldwide in embracing e-government is due to the capacity of e-government for creating public values such as efficiency, accountability, democracy, responsiveness, and equity for citizens” (Nour *et al*., 2008; Karunasena and Deng, 2012).

The next section will focus on the introduction of ICT in taxation.

3.3 Introduction of ICT in Taxation

“The advent of the internet, digital connectivity, the explosion and use of e-commerce and e-business models in the private sector are pressuring the public sector to rethink hierarchical, bureaucratic organisational models and customers, citizens and businesses are faced every day with new innovative e-business and e-commerce models implemented by the private sector and made possible by ICT tools and applications, requiring the same from governmental organisations” (Ndou, 2004). The use of ICT in general has changed the service delivery process, business models and people’s expectations of the quality and efficiency of information. Tomsett (2008) supports the view that “the administration of any adopted taxation system should be acceptable and easy for taxpayers and efficient” (Kennedy and Sugden, 2007).

The differences between traditional bureaucratic and e-tax payment systems are shown in Table 3.4 below.

	Bureaucratic system	E-tax payment system
Orientation	Production cost-efficiency	User satisfaction and control, flexibility
Process organisation	Functional rationality, departmentalization, vertical hierarchy of control	Horizontal hierarchy, network organisation, information sharing
Management principle	Management by rule and mandate	Flexible management, interdepartmental team work with central coordination
Leadership style	Command and control	Facilitation and coordination, innovative entrepreneurship
Internal communication	Top down, hierarchical	Multidirectional network with central coordination, direct communication
External communication	Centralized, formal, limited channels	Formal and informal direct and fast feedback, multiple channels
Mode of service delivery	Documentary mode and interpersonal Interaction	Electronic exchange, non-face to face interaction
Principles of service delivery	Standardization, impartiality, equity	User customization, personalization

Table 3.4: The traditional bureaucratic and E-tax payment systems
Source: Adapted from Ho (2002)

According to Ho (2002) "these new paradigms thrust the shift toward the e-tax paradigm, which emphasizes coordinated network building, external collaboration and taxpayer services". Governments worldwide are leveraging ICT in many ways to tap potential cost savings and efficiency when providing online services to citizens. Slemrod (1990) noted that the design of an optimal tax system requires consideration not only of changes in the technology of collecting taxes, but also of how technology may alter the economic environment in which governments seek to collect revenue. According to Bird and Zolt (2008), "Policymakers need to consider the impact of changes in technology on both the design of specific taxes and the relative use of different tax instruments in raising revenue".

However, Yu (2002) stated, "Electronic commerce flourished because of the openness, speed, anonymity, digitization, and global accessibility characteristics of the internet, which facilitated real-time business activities, including advertising, querying, sourcing, negotiation,

auction, ordering, and paying for merchandise". Therefore, ICT covers any product that will store, retrieve, manipulate, transmit or receive information electronically in a digital form such as radio, television, cellular phones, computer and network hardware and software, satellite systems as well as the various services and applications associated with videoconferencing and distance learning.

Adegbile and Fakile (2011) studied the relationship between company income tax and Nigerian economic development. The study failed to state the method used to collect primary data. The study used Chi-square and multiple linear regression analysis for the data obtained. The findings revealed that there is a substantial relationship between company income tax and Nigerian economic development. Evasion and avoidance are major hindrances to revenue generation, along with taxpayers' non-compliance with tax laws and ineffective tax administration that has generated enough loopholes in this source of income. The study suggests, like others, the computerization of integrated tax operations for enhancement of revenue collections. The study also suggested what government agencies can do to increase company income tax revenue generation and collection, while at the same time contributing to the literature on company income tax collection. The current study will use questionnaires and interviews to collect data to explore the impact of ICT in company income tax collection in Nigeria.

Hai and See (2011) examined the intention of tax non-compliance. The objective of the study was to provide a literature review on factors that affect the intention of tax non-compliance behaviour among sole proprietors. The study failed to state the method used for data collection. The findings of the study revealed that the literature review helped identify gaps for future research towards behavioural tax non-compliance intention. These gaps are unapproved tax preparers, unapproved account preparers and future expected tax costs.

However, the study failed to consider IT usage. Many small business entities are still using the services of unapproved tax preparers (Liew, 2004). Collin *et al.* (1992) recommended studying the impact of unapproved tax preparers on tax non-compliance. The unapproved account preparers need not follow the tax regulations and professional ethics set by the approved accounting board. According to Jackson and Jones (1985), "if taxpayers know [the] expected cost of tax non-compliance, then it is a factor that may change taxpayers' non-compliance decision-making". This is why the current study will consider tax costs; if a taxpayer wishes to evade tax, they must understand what the future expected tax costs are likely to be.

Kerr (2012) examined tax return simplification. The objectives of the study were to look at the concept of a default pre-filled tax return within the Australian context and contrast this with the system of reduced filing used in the UK and New Zealand; the study would then draw similarities with New Zealand's personal tax summary. It explored the literature on taxpayer engagement amid the concern that taxpayers may potentially engage less with the tax system if they do not have to lodge tax returns. The findings of the study revealed that the best practice in future tax administration may be a hybrid system where elements of both reduced filing and pre-filling co-exist, and people with simple tax affairs will not have to lodge tax returns and those with arrangements that are more complex will file pre-filled returns. This study highlights that policymakers should consider it worthwhile to weigh up the merit in making such changes for a short-term solution and explore the capacity for longer-term gains. To reiterate, the benchmark of a pre-filled tax return is that a taxpayer only needs to confirm their details are correct. The study failed to consider the use of IT and whether taxpayers file their tax returns manually or via automation. Although extensive

research is required to determine whether revenue authorities should continue to issue refunds to the majority of taxpayers, this current study will add to this research.

Githinji *et al.* (2014) examined the effects of information and communication technology (ICT) on revenue collection by Kenyan counties. The objective of the study was to establish the mode of strengthening domestic resource mobilization by utilizing ICT; it also reviewed information system theories and examined the impact of management information systems on revenue collection in Kenyan counties. The study utilized ICT in relation to technological theories. Additionally, it proposed efforts to be devoted to extensions of the Technology Acceptance Model (TAM) to examine county governments and to take ICT as an important tool for delivering services to citizens and businesses in terms of revenue collection systems. The establishment of an internal control system, a management information system, guaranteed strong control of the largest taxpayers and ICT infrastructure and revenue collection in county governments and utilizing the Unified Theory of Acceptance and Use of Technology (UTAUT). The study used Hofstede (1991) and culture as a system of collectively held values, and looking at culture from this angle, it differs across continents, nations, counties, sub counties and ethnic groups. Their study found that the most comprehensive study of national cultures has been used in some revenue collection system studies, which are discussed under revenue collection system and culture and where the ultimate intent is not to control the behaviour of people in predefined ways, but to influence them to make decisions and take actions that are likely to be consistent with the county goals. They recommended that the county governments should use ICT as an important tool for delivering services to citizens, tax collection, monitoring county project and other business operations within the counties.

Dutt (2004) examined the optimization of corporate tax collection in developing countries – with potential application to Mozambique. The objective of the study was to draw attention to the potential impact of deploying best practice tax collection projects in sub-Saharan Africa. The study used a simple and highly operational model, which may not allow the generalisation of the study findings. The findings of the study revealed that the Mozambican government does not have the means to generate fair taxes to fight poverty; hence, fair distribution of wealth is in danger, which could lead to further tensions between South and North Mozambique. The findings also revealed that in the case of Africa and Mozambique in particular, both a top auditing team and a flat fee structure for small businesses need to respect the principles and guarantee an immediate impact in government revenue collection. The study has some limitations, such as the model possibly being used indiscriminately throughout all sectors of the economy, regardless company size. Additionally the small and medium agricultural companies and the medium industrial companies were not included. The study also failed to consider the impact of ICT on tax collection.

In FIRS, "several technology-based initiatives have been implemented in the last six to seven years, which have yielded significant dividends in improved tax collection, increased taxpayer confidence in the tax system, increased efficiency in tax operations and reduction in leakages" (Omoigui-Okauru, 2011). However, "IT is being deployed rapidly in the delivery of public services even in developing countries such as Chile, Brazil and India with its consequent effect on society; some countries, including Nigeria, seem to be slower in pursuing e-Government practices" (Folarin and Olaniyan, 2009).

In a more recent study, Chatama (2013) examined the impact of ICT on taxation by focusing on the Large Taxpayer Department of the Tanzania Revenue Authority. The objective of the study was to investigate how the use of ICT has modernized tax administration procedures

and improved revenue collection at the Large Taxpayer Department of the Tanzania Revenue Authority. The study used secondary data and literature reviews. The findings revealed that the availability of ICT infrastructure and facilities at the Large Taxpayer Department is contrary to scholarly observation of ICT use limitations in developing countries, and LTD has proven to be well equipped with ICT. Also the taxpayers' and tax consultants' (firms) application of ICT has affected both the design and administration of the tax system in Tanzania. In addition, the findings of the study revealed that the impacts of ICT use can be seen in a number of ways, including; reduced administrative and collection costs; decreased need for personnel; time savings for taxpayers due to fast processing; transparency in assessment, collection, and related processes; reduced tax compliance costs; reduced communication costs; and timely access to information, which results in preventing revenue losses and improving efficiency and performance in revenue collections. The study expressed that although other factors in the economy, like increased internal trade, reduced importation and more reliance on home products, may have caused the increase in revenue collection, it is worth remembering that no matter how much the economy has prospered, if there is no good tax administration, the revenue will only disappear into wrong hands and will not be reflected in collections. If this study is carried out in another developing country with a different level of infrastructure development, the result may not be the same. The study used secondary methods, but the current study on Nigeria will use mixed methods in addition to secondary methods.

Geetanjali (2011) examined ICT application in service delivery for the Inland Revenue Department, Nepal. The study used a combination of content analysis, survey through in-depth interview, questionnaires and observation to collect data. The findings showed that the average response of service providers and seekers towards the effectiveness of e-services is

positive. The study revealed that organisational factors (human resources, ICT infrastructure, financial resources and attitude of service providers) are associated with the effectiveness of e-services, while customers factors (customers'demand and customers'knowledge) are not found to be associated with the effectiveness of e-services. It also revealed that the e-services of IRD are effective, and the organisational factors (not the customers factors) influence e-service delivery. Some distinct features of Nepal, such as a low level of internet penetration, poor rights, consciousness of public customers, the patron-client relationship and a sense of fear of the revenue department, might have made customers hesitant in taking a more active role in making e-services effective. The study failed to assess the customers' roles in effective e-service delivery; the research mainly focused on a few organisational aspects, and the effectiveness of e-services in the study was looked at from the perspective of improvement in service delivery, which was again measured by time effectiveness of e-services. Additionally, the study concentrated only on the effectiveness of e-services in the present scenario. However, the current study will examine other major objectives of e-governance, like ensuring transparency, reducing corruption, reducing cost, and quality of services, which add more value to the effectiveness of e-services. E-service delivery in itself is a new phenomenon in some developing countries, and there have been scant attempts to explore the relation of organisational and customer factors with e-service delivery of an organisation. The study helps to identify the lubricating/hindering factors for delivery of services with the use of ICT to the public, and it is useful to academics and future researchers.

Muwonge (2011) examined the influence of the electronic tax filing system on tax compliance and tax collection. The objective of the study was to ascertain the extent to which e-tax has achieved its objectives and to establish the ease of use of the system and the attitude

of taxpayers towards the system. The study employed a survey research design and used self-administered questionnaires. The findings of the study reveal the following:

i) the electronic tax filing system has improved tax compliance, as it is easy for taxpayers to assess their tax obligations accurately and to file their returns on time;

ii) the attitudes of taxpayers and that of URA staff towards the use of e-tax is positive, as a considerable number viewed the use of the system as being good as the new system has reduced costs on the taxpayer's side;

iii) the current e-tax servers are overwhelmed by the number of users, hence the reason why they are so slow, and the e-tax filing system has the potential of increasing tax compliance and revenue collection in URA; however a lot has to be done to avert the obstacles that may make it impossible.

The study has some limitations, such as the small sample and the results of the study cannot be generalised. Some additional factors need to be considered, primarily non-technological factors including culture, infrastructure and human resources.

Maruf (2004) examined the efficiency of the tax authority and collection of tax revenue. The objective of the study was to explore the effectiveness of the large taxpayer unit (LTU) in increasing the efficiency of the tax authority. Using secondary data and reviews of LTU's functions, the study reviewed their effectiveness in developing countries, particularly in Bangladesh. The findings revealed that countries may gain significant benefits from setting up LTU. Moreover, the experience of many developing countries shows that setting up special operations to control large taxpayer compliance has resulted in increased compliance and effective TA. Many of the countries surveyed reported that establishing LTU helped them address major operational weaknesses in tax authority. The LTU has been a pilot

project for the tax authority to test reforms that will be later extended to other taxpayers. This study provides an overview of the structure and functions of large taxpayer operations. There is not much available data and analysis about the operation of LTU in Bangladesh, therefore, the results of the study cannot be generalised. In the reforms of tax administration, each country needs to take stock of the existing situation and to plot the most desirable and practicable course, as pointed out by Silvani and Radano (1992). The study failed to consider the use of ICT.

One of the ways to improve efficiency and effectiveness is informatisation, which could support several services provided by the tax authority, such as filing tax returns, information services and counselling (Klun and Dečman, 2002).

In a related study, Turner and Apelt (2004) examined globalisation, innovation and information sharing in the tax system. The study's objective was to apply a new conceptual framework to describe and explain the factors that have enabled the diffusion, adoption and operationalization of electronic lodgement within the Australian tax system. The study used textual analysis and in-depth interview methods. The findings revealed that a coalescence of factors and actors was pivotal. In addition, the findings revealed that globalisation, information exchange and advances in computer hardware and software technology were key drivers. The study highlights that Australia is amongst the countries championing the global phenomenon of use of electronic lodgement services within tax authorities. However, the framework provided a comprehensive means to analyse and explain the diffusion and adoption of electronic lodgement strategies within the Australian environment, and the result may have been different if the same study had been carried out in a different environment, particularly in developing countries.

The differences between the e-tax payment system and traditional tax payment are:

Difference	Electronic tax payment system	Traditional manual tax payment
Transparency	ICT has the potential to improve interaction between tax authority and taxpayers, fostering transparency and accountability in administration of company income tax collections	There is no transparency. Instead, there are sharp practises.
Dissemination	There is availability of public information from tax authority to company income taxpayers through radio, and websites, as well as the number of information requests submitted by the taxpayers and queries answered by the tax officials	No dissemination of tax information
Speed	Most people can do their online tax return at Etax.com. Fast to process. No more last minute trips to the Post Office – with e-file, just hit Send.	The visitation of a tax practitioner's office or filling in the tax authority's office, paper tax forms often takes 1 hour or more.
Time savings	The use of ICT in company income tax collection saves time for both the taxpayers and tax authority	Time spent travelling to tax authority's office or in a practitioner's office waiting room can make this even longer.
Location	You can complete your return anywhere at any time such as home, work, in a cafe – even on holidays on the other side of the world – no problems.	You need to visit tax practitioners in their office with all your documents, or carry around a traditional tax pack, both of which can be inconvenient.
Price	Etax.com offers an easy online tax return plus professional accounting support at very low fees.	The cost of visiting a tax practitioner could be more expensive.
Easy	Simple tax online tax payment using a credit card, electronic funds withdrawal or, in some cases, the Electronic Federal Tax Payment System. Taxpayer can get instant support through email or phone.	To complete tax form requires appointments to be made, time off work and many confusing questions – that is not easy.
Service	Selfless service. E-tax payment system checks for errors and necessary information, increasing the accuracy of your return and reducing the need for correspondence with the tax authority to clarify errors or omissions. The taxpayer is notified electronically, acknowledging as the tax authority received the payment.	Involved employment of tax practitioners. Otherwise, taxpayers needed to carry out the services in the tax office.

Table 3.5: The difference between e-tax payment systems and traditional tax payment

Ssewanyana and Busler (2007) examined the extant of adoption and usage of ICT in firms, with a focus on computers and the internet. The questionnaire method was used. The findings of the study revealed that the adoption and usage of ICT by firms in developing countries follow the same pattern as in developed countries, and they only differ in the level of usage and adoption. However, the firms do appreciate the contribution of ICT to their performance, but there are various barriers, which require governments to adopt appropriate policies to address them. It revealed that most small firms adopted ICT when the government started cancelling some taxes. The result of the study may not have been the same if replicated in a different environment.

Koson (2006) examined the impact of ICT on the growth of the service industry. The objective of the study was to explore the productive relationship between ICT and services. In addition, the study examined how ICT as a technological innovation, combined with non-technological factors, affects the economic performance of the firm. The findings of the study revealed that ICT is the key success factor for service firms. The results demonstrate that the presence and intensity of ICT could be used to explain the higher growth in productivity and profitability of service firms. The effect is even more palpable when ICT innovation is undertaken jointly with non-technological innovations.

Nawaz (2010) explored the relationship between corruption and tax revenue. The purpose of the study was to find out if existing empirical research establishes a negative correlation between levels of corruption in an economy and tax revenue collected. The study used the interview method to collect data. The findings revealed that higher tax rates can induce more corruption in an economy by incentivising tax evasion. Its contribution is that corruption has a significant negative impact on tax revenue and individuals have stronger incentives to accept and pay more bribes to diminish the tax burden. The study lacks empirical data and

more research needs to be done to determine whether remedies to corruption can be found through taxation schemes. In addition, the study failed to consider the use of ICT in taxation schemes.

Imam and Jacobs (2007) estimated the impact of corruption on the revenue-generating capacity of different tax categories in the Middle East. The study used survey methods, and the findings revealed that the low revenue collection as a share of GDP, compared to other middle-income regions, is due in part to corruption and certain taxes are more affected than others. It revealed that an effective measure to reduce corruption is to change incentives within the revenue administration by hiring and training professional staff and strengthening internal control systems. Its contribution is that if governments need to raise more tax revenues in a way that minimises distortions and maximises social welfare, they should implement reforms that either reduce corruption or raise revenue from tax categories that are less susceptible to corruption. However, possible reforms of the revenue system and administration also need to be examined.

Adhikari (2008) examined e-Revenue Administration in Nepal with the objective of increasing the efficiency of government services through the effective use of ICT. E-revenue administration is one of the systems dedicated to providing quality services to the public, specifically taxpayers, using IT as a major tool. The findings revealed that the e-Revenue Administration initiative of the IRD, which commenced in 2006, has proven successful. The findings of the study revealed that ICT applications include the e-PAN (Electronic Permanent Account Number) System; Value Added Tax (VAT) Assessment/Collection; Income Tax Assessment/Collection Services; the Revenue Accounting System (RAS); the e-Estimated Income Tax Return System; and the Check Point Entry System. The study presented an overview of these initiatives, briefly highlighting success factors and comments on

improvement. The system lacks some features that are needed for maintenance. It is also important to expand e-revenue services and other e-services by raising national competitiveness, IT education and improvements in digital linkage between different stakeholders like customs and industry at the grassroots and national levels.

Hussein *et al.* (2010) examined an integrated model of online tax adoption in Malaysia with the aim of investigating the factors that might contribute to the taxpayers' adoption of the online tax or e-filing system. The study used quantitative and survey methods. The findings revealed that trust of the government and web-based service quality are found to be significant factors influencing citizens' intentions to use the e-tax filing system. The study contributes to theoretical models of new technology adoption such as TAM, DOI, and PCI. Other contributing factors such as social influence, service quality, trust, and perceived risk, internal and external political self-efficacy have been employed in the study to explain G2C adoption. Their findings also, in general, enriched a body of knowledge and theory of e-government adoption by citizens, and their research model could be used as a reference for any further studies that focus on a different form of e-government technology. Their study has several limitations, such as the survey only targeting academic staff as a sample from selected universities in Malaysia, and a stratified sampling method used in the study only focused on e-filing adopters. Therefore, extra caution needs to be taken in generalizing the results. Davis (1989) hypothesized that user acceptance of an information system/information technology (IS/IT) can be measured from his/her usage intention of a particular IS/IT. He indicated that people's computer usage could be predicted reasonably well from their intentions. Specifically, in the technology acceptance model, Davis (1989) stated that usage intention is predicted by both attitudes towards using and perceived usefulness of the IS/IT. Attitudes towards using an IS/IT are jointly determined by perceived usefulness and

perceived ease of use of the IS/IT (Davis, 1989). Davis (1989:320) defined "perceived usefulness" and "perceived ease of use", as "the degree to which a person believes that using a particular system would enhance his or her job performance" and "the degree to which a person believes that using a particular system would be free of effort" respectively.

Colesca and Liliana (2008) claimed that effective government management must portray less corruption, increased transparency, better delivery of government services, improved interactions with business and industry, greater convenience, citizen empowerment through access of information, growth of revenues, cost reduction and so on. Therefore, to achieve effective government management, employing the right information system is essential to ensure improved government transparency, responsiveness and accountability towards its customers (Belanger and Carter, 2008). Gilbert and Balestrini (2004) identified nine factors important to government's adoption, where three of them – namely less time, cost and avoiding interaction – are related to benefits; the other six – experience, information quality, financial security, low stress, trust and visual appeal – are factors that are related to the barriers of adoption. They concluded that the adoption rate is not likely to increase if factors related to barriers are not properly addressed.

Tax systems in developing countries, like those in more developed countries, face both new challenges and new possibilities as a result of technological change (Bird and Zolt, 2008). Electronic tax (e-tax) is discussed in the next section in order to understand its importance, and various studies are overviewed in order to bridge the existing gaps in this area.

3.3.1 E-Tax

Taxation is a fundamental activity of any national government system. Nevertheless, despite the fact that taxes have been levied for thousands of years, there remain many, often fundamental, problems in terms of how governments assess and collect the revenue that they need from individuals and companies. The institution of IT-based systems can make the taxation system of a nation diplomatic as well as far more efficient. E-tax involves the online tax filing and payment system (OTFPS). The e-tax service is an important online service that enables citizens to file taxes online (Hu *et al.*, 2009). It is an important application that automates tax related processes in an attempt to improve efficiency in assessing and collecting tax information (Fu *et al.,* 2006).

Fu *et al.* (2006) define e-tax as "an important application that automates tax-related processes in an attempt to improve efficiency in assessing and collecting tax information". "E-tax is a new service provided by government to enable citizens, in particular taxpayers, to complete electronic tax filing forms and necessary payment details via the internet" (Dorasamy *et al*., 2010). "E-TA allows tax data entry, automated processing, computation and analysis as well as automatic production of tax reports and feedback required for risk management control" (Moore, 1999; Holniker, 2005; Partch, 1997). According to Faniran and Olaniyan (2009), "electronic governance (or e-Governance) by definition and design, aims to bridge the gap between government, citizens and businesses through the use of IT by lowering transaction costs and reducing information asymmetry, ultimately eliciting feedback from citizens while delivering public services more efficiently".

A critical part of the collection function of Federal Inland Revenue Services in Nigeria is enforced tax collection. There is a growing awareness of the importance of this function for Federal Inland Revenue Services. Tax collection should be considered as an important and

integral part of the overall Federal Inland Revenue Services process and, in our view, it is not a function that can be readily separated from mainstream operations. Tax collection is typically a major responsibility of Federal Inland Revenue Services.

Wang (2012) examined factors that influence citizen adoption of the government e-tax service. The objective of the study was to find the factors which can influence citizen adoption when the citizen accepts or rejects the government e-tax service. The study used literature review method. Bryman (2008:81) identified that "your literature review is where you demonstrate that you are able to engage in scholarly review based on your reading and understanding of the work of others in the same field." The findings of the study revealed that subjective norms are significant for non-adopters and insignificant for adopters, and self-efficacy is significantly higher for adopters than non-adopters. The study will help governments to understand these factors and to formulate the corresponding measures to promote greater citizens' use of the e-tax service and lead to better planning and implementation of the e-tax service. However, the findings need more arguments to support them, and it may have been better to use questionnaires or interviews to analyse which factors influence citizens' adoption of the e-tax service. The current study proposes the use of questionnaires and interview as research instruments.

Xuyang (2012) examined factors that influence citizen adoption of government's e-tax service. The objective of the study was to identify the factors that can influence citizen adoption when the citizen accepts or rejects the government e-tax service. The study used the literature review method to collect study summaries and the decomposed Theory of Planning Behaviour (TPB) model cannot include all of the factors that influence citizens' adoption of the e-tax service; there are some factors not analysed in this study. There are only seven articles that have a similar research field with the study, and two articles are

from the same authors with less reference; therefore, the result may need more arguments to support it. It would be better to utilise questionnaires or interviews to analyse which factors influence citizen adoption of the e-tax service. Understanding these factors can help governments formulate corresponding measures to encourage more citizens to use the e-tax service and lead to better planning and implementation of the e-tax service.

In a recent development, Okafor (2012) examined revenue generation in Nigeria through e-taxation. The objective of the study was to find out whether electronic taxation will significantly curb tax evasion and avoidance and improve revenue generation. In the study, the survey method was adopted. The findings of the study revealed that electronic taxation will enhance revenue generation in the states studied, and a large database of the citizenry achieved through proper record keeping will enhance revenue generation. It also revealed that e-government is an indispensable factor in achieving the objective of e-taxation and IT literacy will enhance electronic FIRS, which will significantly curb tax evasion and avoidance and reduce operational compliance cost. The current study will examine the extent of application of ICT in company income tax collection in Nigeria, to see if ICT has enhanced revenue generation through e-taxation and the issue of jurisdiction in taxing online trading.

Rouibah (2012) examined trust factors influencing the intention to adopt online tax payment in Kuwait. The study used the online questionnaire method, and the findings shed light on the role of customer trust and perceived enjoyment to mediate the effect of external variables (personal innovativeness, familiarity, propensity to trust and presence of third-party seal). It assists in enhancing online payment website acceptance by potential consumers in Arab countries. The study has limitations, such as the lack of a direct effect between customer trust and intention to use as well as between customer trust and perceived security. The findings of

the study extend and challenge the model proposed by Kim et al. (2010), which determined that perceived trust and perceived risks mediate the effect of external factors on the intention to use EPS. The method used may not be applicable in some developing countries due to lack of education and infrastructure such as electricity. Additionally, the findings may be different if the study is replicated in other developing countries.

Esteller-Moré's study (2011), "Is the tax collector just a money machine? Empirical evidence on redistributive politics", analysed how efficiently personal income tax is administered in Spain and identified its determinants. The primary aim was not so much to assess the performance of Spain's tax collector, but rather to attempt to empirically infer its determinants in order to shed some light on the empirical literature on tax collection. It used the methodology proposed very recently by Wang and Ho (2010) to estimate a fixed-effect panel stochastic frontier model (an empirical specification) capable of consistently disentangling structural factors that affect the frontier structural inefficiency. The findings of the study revealed that political factors are found to play a role, and the fear of losing a parliamentary seat in a region forces the tax authorities to reduce their efficiency in ensuring tax compliance in that region. In addition, in those electoral districts where the central government obtains higher electoral support, efforts to collect taxes diminish. These non-technological factors are affecting company income tax collection. The current study will examine challenges facing company income tax collection in developing countries.

Boylan (2010) examined prior audits and taxpayer compliance, providing experimental evidence on the effect of earned versus endowed income. The study used a questionnaire to collect data. The objective of the study was to address the issue of whether the impact of a prior audit on subsequent compliance decisions depends on the amount of time and effort required to generate taxable income; Boylan also used a set of experiments designed to

examine how taxpayers respond to whether they have been audited in a prior period and whether the nature of the response depends on the amount of time and effort required to generate one's taxable income. The findings of the study revealed that taxpayer compliance is influenced by whether one has been audited in the past, but that the specific effect of prior audits depends on the amount of time and effort required to generate one's income. In addition, these results add to the body of evidence indicating that taxpayer decisions appear to be influenced by whether taxable income is earned or endowed. Finally, the results suggested that mixed findings documented in prior research on the role of prior audits can be attributed in part to systematic differences in whether taxable income was earned or endowed. This finding helps reconcile the mixed results obtained in prior experiments on taxpayer compliance, and it helps explain why the archival-empirical studies documented above largely failed to find a link between prior audits and subsequent compliance. The study has some limitations such as there were only two tax-reporting periods; it is unclear how compliance is affected by the cumulative effects of several prior periods involving an audit or lack thereof, nor is it clear to what extent behaviour observed in the second period would spill over into subsequent periods; the use of neutral terminology in the experiment likely suppressed moral and ethical considerations pertaining to compliance that are impounded in many taxpayer reporting decisions; and it is unclear whether the nature of the task in the earned income condition has any influence on behaviour. In other words, one cannot specify whether the same results would apply if the time required and the nature of the work required to earn income were different, and the experiment relies on a relatively small data set.

Isaac and Lilian (2010) carried out a study on automation and customs tax administration using empirical evidence from Uganda with the aims of achieving efficiency and increasing revenue. The study employed a quantitative survey to empirically test the relationship

between automation and tax collection efficiency based on data from the Uganda Revenue Authority (URA). The data used was analysed with the Statistical Package for Social Science (SPSS). The findings suggest a positive correlation of automation and the cost of tax administration, automation and effectiveness of revenue collection, while automation is negatively and significantly related to tax clearance time. Their study addressed the level of IT use in tax administration in Uganda. The study makes a significant empirical contribution to analysing tax automation and administration cost, time efficiency and effectiveness of revenue collection. The results are not based fully on an automated system and do not reflect an operational automated system, compared to the previous studies. Therefore, the findings cannot be generalised. Secondly, the level of technology acceptance application, (which was not part of the study) was resisted by the staff of URA in anticipation of loss of jobs through rationalization and automation. Further research could validate the relationship between tax collection and automation in all areas of tax administration, as opposed to the partial automation of customs activities alone. These gaps will be filled by the study under review.

Kuznetsova (2010) examined factors affecting diffusion of tax return filing online (e-return) in Finland. The objective of the study was to develop an adoption forecast for the service. The diffusion of innovations theory, bass diffusion model and service process analysis were used as the theoretical base for the study, alongside the survey method. The findings revealed that the diffusion of e-return is dependent on such variables as perceived attributes of the e-return system, interpersonal communication channels, performance of related services and the extent of tax administration's promotion efforts. In addition, taxpayers were classified into four main categories based on taxpayers' demographics and personal income tax filing needs. As with any empirical study, this research has its limitations. The primary limitation of this study lies in the fact that the data in the satisfaction survey is heavily skewed towards users of

e-returns, which means that there is not enough information to analyse those who decided to file tax returns on paper. In addition, due to the nature of the survey, all respondents were self-selected and had had at least some experience with the service prior to responding to the questions, which completely excludes those individuals who decided to reject e-returns prior to using them. Another limitation comes from the novelty of the "service"; there is no historical information about user preferences. It is important that the validity of statistical inferences derived from the study are tested in the future if similar user satisfaction surveys are administered. In addition, the study failed to obtain adequate data from the log of the online service, which means that the analysis is reliant on individuals' responses about their behaviour and not facts. The model assumes stability in the system over the course of innovation diffusion, which will not happen in reality. These limitations suggest avenues for further research, and the current study of Nigeria will consider these gaps.

In a more recent study, Adebisi (2010) examined the problem of FIRS and appraised the performance of the Kogi State Board of Internal Revenue. The study used questionnaire and interview methods. The findings revealed that there are problems in tax collection, such as a lack of power by the Revenue Appeal Courts, poor communication systems, poor staff training and equipment, fraudulent practices, lack of supervisors and so on. The study failed to incorporate the use of ICT. The sample of one state used out of 36 states may not allow the results of the study to be generalized. The findings also revealed that the monitoring mechanism in the system has been greatly improved over the years and the shortfall from the federation account has been augmented with taxes collected in the state.

Dodd (2000) argued that with the currently poor state of social infrastructure (especially power supply and road network) in Nigeria, the practice of e-governance is most likely to be negatively impacted upon. Conducting business has advanced from the "trade by barter" days

to the "commodity money" era, then to a "cashless or digital" epoch referred to as electronic commerce (e-commerce) (Ovia, 2008). Nigeria is a country highly dependent on cash for its transactions. Internet utilization is in its infancy in Nigeria, despite the liberation of the telecommunication sub-sector in the 1990s. Moreover, there is insufficient research in e-commerce in developing countries like Nigeria and limited understanding of the underlying factors that affect its adoption (Chiemeke and Evwiekpaefe, 2011).

Indeed, e-tax (CIT) systems may be represented as shown in Figure 3.1:

E-Tax (CIT) Systems

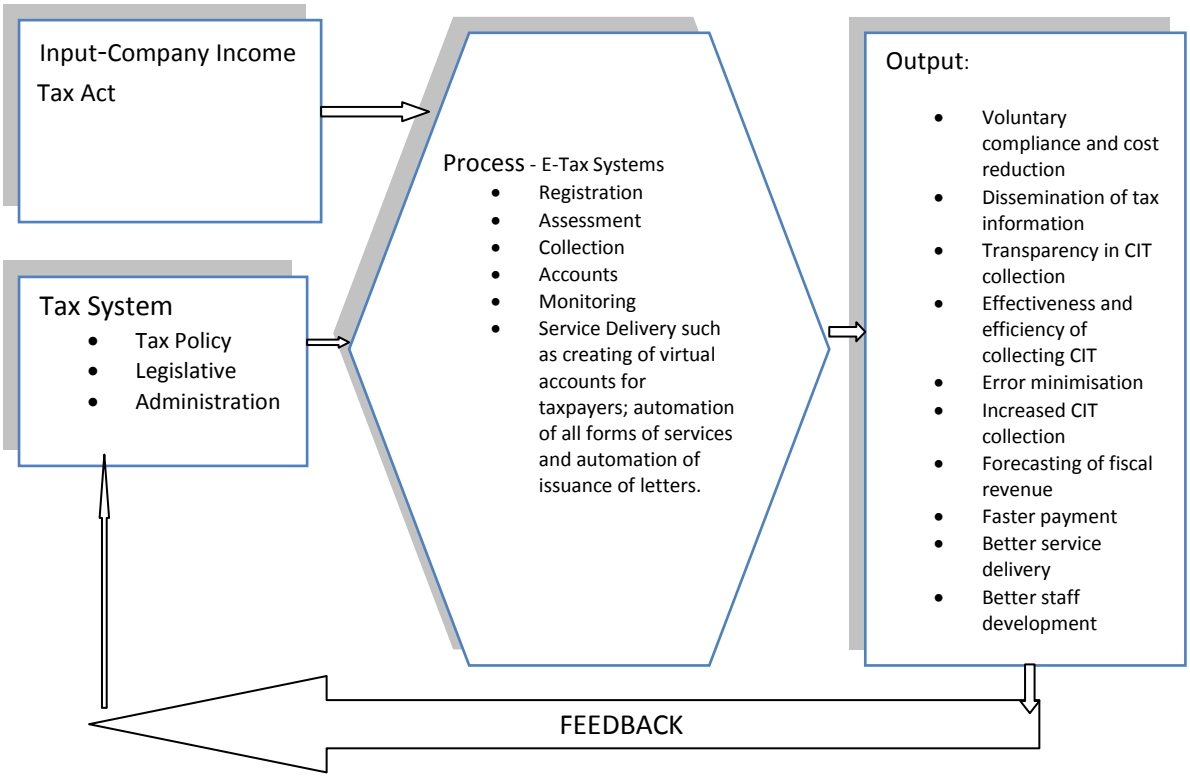

Fig. 3.1 E-Tax (CIT) Systems

The e-filing tax system is discussed in the next section.

3.3.2 E-filing

The United States Internal Revenue Service (IRS) introduced electronic filing of tax returns in 1986. Prior to launching the project, the IRS worked closely with tax preparation software providers and tax professionals to ensure a successful launch of the programme. The IRS offered e-filing services in three cities and restricted the types of taxpayers and the types of returns that could be filed electronically, as tax preparers were allowed to file returns.

Fu *et al.* (2006) carried out a study on the acceptance of electronic tax filing. The study aimed to examine the factors affecting taxpayers' intentions to adopt a particular tax filing method. A review of previous studies suggests that many studies were anchored in behavioural intention and reported a strong causal link between behavioural intention and targeted behaviour (Chau and Hu, 2001). TAM (Technology Acceptance Model) and TRB (Theory of Planned Behaviour) were theoretical premises for the research model examined in the study. A nationwide questionnaire-based survey was used. The method used was justified because data collected using electronic means have similar psychometric qualities to data collected through physical procedures. The findings revealed that electronic taxpayers intended to continue using the method, and that manual taxpayers' usage intentions were relatively diverse. The findings also revealed that manual taxpayers, in comparison with electronic ones, had lower education levels, were older, had less computer and internet experience, had less IS resources and were online less frequently. The confirmatory study represented a conceptual replication by re-examining theoretical models in tax filing settings. The study provided some preliminary evidence about the criteria that taxpayers used to evaluate their adoption of e-tax filing. It also provided a starting point for governments seeking ways to improve citizens' acceptance of e-tax services.

Zakaria *et al.* (2009) examined the e-filing system used by the Inland Revenue Board (IRB) and its perception by Malaysian taxpayers. The objective of the study was to determine factors that influence taxpayers' attitudes towards the internet for tax filing systems. The study used quantitative research methods, obtaining data through questionnaires and information from secondary data. The findings revealed that a major factor that influenced taxpayers' perceptions of e-filing systems is the perceived usefulness of the tax filing system itself. The findings also revealed that higher levels of education of taxpayers and greater experience of using IT geberate positive perceptions of using the e-filing system. The study failed to consider other important factors that influence the e-filing system practised among taxpayers in Sungai Petani Kedah; however, the current study will determine these other factors that may influence the e-payment system in other developing countries, mostly Nigeria. The current study will also focus on the best e-payment system for citizens and refer to previous research on the needs of citizens and facilities provided by the government to its citizens.

Lai (2008) carried out a study on the electronic tax filing system and taxpayers' perspectives. The objective of the study was to examine the motivation for using e-filing and the impediments from the taxpayers' perspectives. A questionnaire was used to collect data. The findings revealed that e-filing has not gained momentum in Malaysia, with just one-third of respondents having attempted e-filing in 2007. In addition, the majority of the e-filers used e-filing for the sake of convenience, speed of filing and the hope of getting a faster tax refund. These findings somewhat supported the assertion of Tan *et al*. (2005) that it is important for the government to embrace e-filing as one of e-government's endeavours to restore taxpayers' trust in the e-filing system. However, tax administrators need to develop a better "user friendly e-filing system".

Islam *et al.* (2011) examined factors affecting user satisfaction with the Malaysian income tax e-filing system. The aim of the study was to investigate the influence of electronic service quality dimensions on e-filing user satisfaction in the northern region of Malaysia. Data was collected using the survey method. The findings revealed that information quality and service quality significantly affected trust building, perception of service and flexibility; information quality and accuracy contribute to user satisfaction in respect of income tax e-filing systems in the northern region of Malaysia. The implication of this study needs to be examined to form effective strategies to sustain current e-filing users by taking appropriate action(s) to improve user satisfaction among Malaysian taxpayers, in order to achieve the IRBM goal of increasing e-filing usage in future. The findings will assist the Inland Revenue Board in formulating new strategies to improve e-filing user satisfaction and to achieve their goal of taxpayers using e-filing in the future. The study failed to consider attributes other than electronic service quality dimension factors. The current study will consider all the necessary factors affecting users' e-payment satisfaction in Nigeria.

Gemmell and Ratto (2012) examined behavioural responses to taxpayer audits by using evidence from random taxpayer inquiries. The objective of the study was to investigate whether UK taxpayers alter their compliance behaviour in response to random audits and to evaluate the impact of an audit on future compliance, by treating taxpayers' behaviour as a function of their perceptions of being audited and the amount of tax evasion they expect to be uncovered, using a sample of individual and business taxpayers. The system allows the study to address responses to the audit process that have only recently begun to be considered in the experimental literature, such as the impact of differences in the "quality" of audit outcomes on taxpayer responses. The findings of the study revealed that the verdict of a previous audit — in particular whether a taxpayer is identified as "compliant" or "noncompliant" and the

amount of undeclared tax yield identified — affects whether subsequent compliance increases or decreases and the extent of any increased compliance. In addition, the findings also emphasised the importance of separately testing the responses of taxpayers facing different opportunities and incentives to evade tax in order to avoid conflating their different effects. The study has limitations, such as the limited data available to assess the possible impact of replacing the UK's random audit program with more risk-based audits.

Carter *et al.* (2011) examined the U.S. e-file initiative. The study objective was to propose a model of e-file diffusion that integrates acceptance factors and personal factors to assess the impact of adoption, trust and optimism on e-file utilization using a survey method. The findings revealed that performance expectancy, social influence, computer anxiety, optimism bias and trust of the government all have a significant impact on the intention to use an electronic tax filing system. The study highlights the device factors that affect the adoption of an emerging technology – electronic tax filing – and explains over 70 percent of the variance in intention to use an e-file system. The study has the limitation of limited diversity in the sample. The sample was composed of graduate and undergraduate students. The survey was used to collect data, allowing potential self-report bias from respondents. The current study will use multiple methods to collect and analyse data concerning the adoption of e-payment, mostly in Nigeria.

Some scholars also examine e-filing with their findings, as shown in Table 3.6 below.

Author(s)	**Study description and key findings**
Azmi and Kamarulzaman (2010)	The e-tax filing system is one of the e-government services that havs been adopted by many developed countries where the public has to discharge their responsibility to the government via online tax filing. The study aims to examine the relationship of perceived risk and its facets within the technology acceptance model (TAM). It proposes a conceptual model to further understand the role of perceived risk in influencing consumer behaviour throughout the adoption process.

	The model will serve as a useful guideline for strategy development in promoting e-government services, particularly the tax e-filing service**.**
Schaupp and Carter (2008)	260 MBA, upper level and graduating students completed a survey designed to test a model, which explains citizens' intention to use e-filing. Trust of the e-filer, optimism bias, and perceived risk showed direct significant effect on intention (USA)
Fu *et al.* (2006)	26,989 internet, 31,596 2D barcode and 582 manual income tax filers completed a questionnaire designed to test a model combining constructs from TAM, decomposed TPB, COMP and perceived risk. PU was the strongest determinant of BI in all the three taxpayer groups. The model explained 67, 64 and 67 percent of variance in BI, respectively, in case of manual, 2D barcode and internet filing (Taiwan)
Hung *et al.* (2006)	1,099 respondents (1,008 adopters and 91 non-adopters of e-filing) completed a questionnaire designed to test a decomposed TPB model; ATT, SN, and PBC explained 72 percent of variance in BI (Taiwan)
Carter and Belanga (2005)	105 visitors to a community concert completed a questionnaire designed to test a model combining TAM/DOI-PCI variable, and Trust: COMP, PEOU and perceived trustworthiness explained 85.9 percent of the variance in BI (Virginia, USA)
Wu and Chen (2005)	1,032 e-filers (one-time users) completed an outline questionnaire designed to test a model combining TAM, TPB, and Trust; PU, ATT, PBC and SN explained 69 percent of variation in BI (Taiwan)
Fu *et al.* (2004)	27,208 internet, 32,845 2D barcode and 582 manual income tax filers completed a questionnaire designed to gauge tax filers' satisfaction and future (next year) usage intention in respect of their respective tax filing methods; satisfaction level was highest amongst internet and least amongst manual filers; overall satisfaction (OS) with a particular filing method was strongly associated with BI for that method for next year. OS explained 38, 44 and 32 percent of the variance in BI for manual, 2D and Internet taxpayers, respectively, (Taiwan).
Hsu and Chiu (2004)	149 income tax e-filers completed a questionnaire designed to test a decomposed TPB research model wherein e-service satisfaction, internet self-efficacy, and perceived controllability were posited as the antecedents of e-service continuance intention. e-service satisfaction and internet self-efficacy explained 75 percent of variance in intention to continue; antecedents of e-service satisfaction were interpersonal influence, PU, and perceived playfulness (Taiwan)
Wang (2002)	260 experienced income tax filers were interviewed telephonically, using a standard interview protocol designed to test a TAM model extended with perceived credibility (PC) as an antecedent of BI. Computer self-efficacy (CSE) was posited as the external variable. PEOU, PU, and PC explained 62 percent of variance in BI. CSE has significant effects on PEOU, PU, and PC (Taiwan).

Hwang (2000)	An experimental study (30 taxpayers and 30 students, all familiar with computer use), followed by a postal survey (84, 58 and 36 complete responses from internet, 2D barcode and manual income tax filers, respectively), to gauge user satisfaction with internet, 2D barcode and manual income tax filing; 2D barcode gave highest level of satisfaction, followed by internet and manual methods; satisfaction is also influenced by taxpayer filing experience (Taiwan)

Table 3.6: Previous studies on adoption of income tax return e-filing

The next section will cover e-payment.

3.3.3 E-tax payments

An electronic payment system is a process used to collect payments via the internet, direct dial access, ATM or other electronic method. According to Ciborra (2005), "e-tax systems are to streamline revenue collection and documentation services". However, several studies (Turner and Apelt, 2004, and Fu *et al.* 2006) revealed that "electronic taxation is a form of tax assessment, collection and payment that does not require taxpayers to interact physically with the tax authority, instead enabling them to review, file and pay taxes via ICT". Mugisha (2001) states that "the use of ICT enhances timely access to accurate and relevant information, which is a prerequisite for good planning, programming, implementation as well as monitoring and evaluation, which forms the key component in development". Some scholars emphasized that the spread of ICT use in various sectors brings new opportunities for economic growth and development. New organisation design, new markets, new products and improved services have been created, which bring with them new sources of revenue. Crede (1998) revealed two facts: first, "ICT has the capacity to increase productivity and create more cost effective output with the same or less inputs and development of ICT applications for business use alter the approach in which organisations function and eventually improve their services as well as products". Due to the complexity of large taxpayers, "they present a major tax compliance risk to revenue bodies, considering their

critical role in revenue collection; it is the responsibility of tax administration to be ahead of large taxpayers in technology in order to curb cheating" (Suluo, 2003).

Rotimi *et al.* (2013) studied revenue generation and engagement of tax consultants in Lagos state, Nigeria, and continuous tax evasion and irregularities. The main objective of this study was to examine revenue generation in Lagos state with emphasis on use of TAMA (Tax Monitoring Agents) in the light of tax evasion as well as activities of some unscrupulous tax officials. The study failed to state the method used to collect data. The findings of the study revealed that tax evasion and avoidance are imminent and, of course, have a significant relationship with revenue generation in Lagos state with the engagement of tax consultants. The result of this study provides research-based data to be used by the management of Lagos Inland Revenue Services, and other states of the federation will equally benefit from the study since it will expose them to methods of removing loopholes in tax administration and improving revenue generation. However, the study fails to consider the use of ICT in revenue generation and engagement of tax consultants.

Huang *et al.* (2006) examined factors influencing business adoption of online tax payment services. The study's objective was to explore factors that influence business organisations' decisions regarding the adoption of a web-based tax payment system in Taiwan. The study used the questionnaire method. The findings of the study revealed that perceived ease of use has a positive impact on perceived usefulness; structural assurance influences trust positively; perceived usefulness, perceived ease of use and trust have a positive impact on attitude; and trust and attitude positively influence behavioural intentions. The results of the study will enable the government to increase public awareness of the technological merits of online tax services as well as to provide adequate security mechanisms to facilitate online transactions. The study shows how and what government agencies can do to motivate business users to file

tax online. The study extends the application domain of TAM and suggests that TAM is applicable to explain organisations' decisions in the adoption of web-based government services. The study further contributes to the literature on TAM by providing empirical support for the application of perceived usefulness, perceived ease of use, attitude and behaviour intention in the context of B2G interactions. Additionally, the study contributes to the literature on TAM and trust theory by integrating both aspects in investigating business decisions in respect of online tax declaration. The study has some limitations, such as targeting business users without considering their levels of involvement in e-government services, previous e-government experience and frequency of using online tax payment systems. The study targeted Taiwanese firms only; as a result, it cannot be applied globally. However, the current study will examine if culture plays a role on user perceptions within the e-government context in Nigeria. While the Taiwanese study focuses on the impact of structural assurance on trust only, without exploring other influential factors, the current study will further explore the impact of technological factors on user trust within the e-tax filing and payment systems in Nigeria.

Stafford and Turan (2011: 343-357) examined online tax payment systems as an emergent aspect of governmental transformation. The study described factors related to the use of and acceptance by accounting professionals of information technology intended to facilitate electronic tax filing systems. The combination of the Technology Acceptance Model (TAM) and the Theory of Planned Behaviour (TPB) was applied. The findings revealed that the intention to use automated systems as part of the governmental treasury function transformation is hindered by factors that mediate actual plans to do so, mostly in terms of normative pressures and perceptions of behavioural control, which training and education may well improve. The study shows that the use and acceptance of e-tax systems is relevant

and applicable to a great number of nations and contexts, as the ongoing electronic transformation of governmental revenue systems contributes to efforts to transform governments through alternative service delivery venues and channels. The limitation of the study is that the transformation of the treasury function where the study is carried out is only partially complete and will require additional support, direction and training in its interactions with the tax professionals who interact with the emergent automated system.

Chen *et al.* (2011) examined factors influencing business adoption of online tax payment services. The objective of their study was to explore factors that influence business organisations' decisions regarding the adoption of a web-based tax payment system in Taiwan by using quantitative research methods. Their findings revealed that perceived ease of use has a positive impact on perceived usefulness and that structural assurance positively influences trust. They also found that perceived usefulness, perceived ease of use and trust have a positive impact on attitude. The study contributes to understanding of the impact of technological and social factors in e-government adoption. Chen *et al.* (2011) also extended the application of TAM and the trust perspective from the individual context to the business context. The study targeted business users in Taiwanese firms only, without considering the level of involvement in e-government; it also only focused on the impact of structural assurance on trust.

In another study, Ndonye (2012) analysed factors affecting revenue collection in the Ministry of State for Immigration and Registration of Persons (MSIRP). The objectives of the study were to establish the effect of technology on revenue collection in the MSIRP, to establish the effect of government policy on revenue collection in the MSIRP, to determine the effect of integrity on revenue collection in the MSIRP and to establish the effect of staff revenue collection capability in the MSIRP. The study found that 65% of respondents strongly agreed

that applying online is challenging for the people seeking the service, due to lack of technological knowledge. In the study there are other identified challenges to the use of technology such as inadequacy of facilities for the use of technology, lack of knowledge and skills on the use of ICT in the collection of revenue among the revenue collection staff, resistance to change by employees in the ministry, inadequate ICT infrastructure in the ministry and incorporation of the non-automated system of revenue collection. Regarding the effect of government policy on the collection of revenue, the study found that 87% of respondents indicated that there were no policies hindering collection of revenue in the ministry. Regarding the integrity of revenue collection, the study found that 42% indicated that there was corruption in the collection of revenue in the ministry. Finally, the study found that 71% of respondents indicated that there was inadequate revenue collection manpower in the ministry. Those were not properly trained, as indicated by 54% of respondents. In conclusion, the study identified that the use of technology, integrity and revenue collection staff were a challenge to the collection of revenue in the ministry, while government policy was not a challenge. The result of the study is relevant to the current study in identifying what challenges may face FIRS in Nigeria.

Oluwakayode and Arogundade (2011) examined the problems and prospect of using consultants in TA in Nigeria, with Lagos State being the case study. The study used oral interviews with Lagos State Board of Internal Revenues staff and some Board consultants. Relevant books and journals that deal with personal income tax were also reviewed. The findings revealed that consultants rendered very high value-added service to the Lagos state government. The findings also revealed the prospects of using consultants include the following:

i) There had been a huge increase in internal revenue for the participating states. According to Adekanola (1996), "Niger State in the years before the appointment of the consultants collected about N2 million a month as tax revenue. State Governments who were getting monthly revenue of Nl2m now receive about N50m per month".

ii) There was the creation of a sustainable tax database with the compilation of a Standard Master Register of Taxpayers. This is a practice which had hitherto been overlooked by revenue authorities.

iii) Staff orientation

iv) The consultants brought about positive change in the orientation of the staff of state and federal boards as well as an improvement in their training and development.

v) The introduction of a new voluntary tax payment culture resulted in better tax education and awareness.

vi) Taxation became recognized as a body of knowledge distinct from accountancy, which every individual and corporate body must take seriously. As a profession, experts in law, economics, finance and not just accountants can be engaged as tax consultants. It is noteworthy that in Nigeria today, experts in these other fields may also be admitted to membership of the Chartered Institute of Taxation of Nigeria (CITN).

vii) Accounting for tax collected became more prompt and more accurate since it forms the basis of consultants' fees; quite a number of businesses that owed large sums of withheld taxes had to pay, and these practices became prevalent.

Opponents of the use of tax consultants for revenue generation argued the following:

i) There is no provision in the tax laws to support their appointment.

ii) The consultants do not observe the rule of law

iii) The government forces and harasses taxpayers with armed soldiers and police.

iv) Some of the consultants negotiate tax liabilities.

v) The consultants employed unorthodox methods of assessment.

vi) The consultants used tax as a disincentive to foreign investment.

The limitations of the study are that the sample is small and does not truly represent the general situation in Nigeria. The study fails to recognise the impact of ICT in the collection of tax revenue in TA's operations, and other methods such as questionnaires could have been utilised in addition to interviews and secondary data. Lagos State Internal Revenue service employees were interviewed in addition to a few tax consultants, while taxpayers were not considered. In addition, the result may not be the same if it is replicated in another state within Nigeria or in other developing countries. Therefore, the results of the study cannot be generalised. The current study will examine the impact of ICT in the collection of tax revenue and the level of ICT usage in TA. Nigeria should embrace technology in TA to support electronic remittances and filing of returns, which will reduce the burden on taxpayers and make doing business easier.

In another study, Martin *et al.* (2010) examined the effectiveness of electronic tax registers in processing value added tax returns perspectives from registered VAT taxpayers. The study aimed to determine the extent to which electronic tax registers are being used by taxpayers, the problems (if any) that they encounter in using them as well as possible solutions to the problems. It also aimed to establish if electronic tax registers increased the speed at which

taxpayers processed their VAT returns and if there were any associated costs in the processing of VAT. The main instrument for collecting primary data was a questionnaire, while secondary data was obtained from the Kenya Revenue Authority regional office. Their study assists the Kenya Revenue Authority by searching for ways to improve the processing of VAT returns and finding an effective method of revenue collection to meet the country's budget revenue targets. The findings revealed that timely filing of monthly VAT returns is attributed to the electronic tax filing system. The introduction of ETR has assisted in cutting costs that businesses used to incur in processing VAT. It also revealed that ETR has enhanced revenue collection resulting from stock audits. The following challenges need to be addressed: the cost and classification of the businesses that need to use ETR, the gap between the design and the reality of the electronic tax filing system as applicable to the service providers, and determining whether the results can be replicated in other developing countries.

Worlu and Emeka (2012) examined tax revenue and economic development in Nigeria from a macro econometric approach. The data for this study was obtained from secondary sources. The findings of the study show that tax revenue stimulates economic growth through infrastructural development and highlights the channels through which tax revenue impacts on economic growth in Nigeria. The findings also revealed that tax revenue has no independent effect on growth through infrastructural development and foreign direct investment. The study contributes to understanding what will bring about improvement in tax administration and increase the tax revenue base, with resultant increase in growth. However, tax revenue can only materialize its full potential in the economy if the government can develop fiscal laws and legislation and strengthen the existing ones in line with macroeconomic objectives, by introducing ICT in tax agency operations. These can check tax

offenders in order to minimise corruption, evasion and tax avoidance and improve tax administrative machinery with personnel accountability and transparency of government officials in the management of tax revenue.

Ozgen and Turan (2007) examined the usage and adoption of an online tax filing and payment system in tax management through an empirical assessment of the Technology Acceptance Model (TAM) in Turkey. The objective of the study was to investigate the development and usage of modern information technologies in tax management and modernization of tax administrations, specifically to investigate e-declaration and e-tax payment systems in Turkey. Two methods of data collection were employed in this study: textual analysis to examine reports, government policy documents, media releases, journal articles and other written material; and then in-depth interviews with the directors of tax administrations and surveys with Certified Public Accountants (CPA) in Turkey were carried out. The findings of the study revealed that the government has carried out projects to use ICT technologies in tax management and to modernize tax management in Turkey. It explains the government's plans and goals relating to e-taxation, and the operation of the e-declaration system. The study made an empirical assessment of adoption of the e-tax filing system in Turkey with TAM. One of the most important limitations of the study is the sample size of the survey. Future research could also investigate major constructs of other important behavioural-based theories such as TPB and TRA's possible effects on BI of electronic tax declaration systems and payment systems. Although theoretical background is discussed in a wider perspective in the literature review, including major behavioural-based theories as well as their constructs, the analysis only involved testing and discussing the results of major TAM constructs, namely perceived ease of use (PEU) and perceived usefulness (PU).

In summary, the benefits of e-tax filing and payment systems (ICT in CIT collections) are shown in Table 3.7 below.

Author(s)	Benefits	Descriptions
Chatama (2013), Dorasamy *et al.* (2010)	On time submission	The e-tax filing and payment systems encourage taxpayers to submit their returns on time, unlike manual submission; the system improves the convenience and flexibility for users. Time for processing return and responding to queries has been reasonably shortened.
Chatama (2013), Dorasamy *et al.* (2010) and Fletcher (2002)	Reduction in error rate in the tax returns processing	The experience showed that the error rate for electronically filed income tax returns was less than 1% versus 20% for paper returns (Fletcher, 2002).
Chatama (2013), Fu *et al.* (2006), Tapscott (1996); Amit and Zott (2001); Malhotra (2001)	Cost reduction and efficiency gains	Electronic tax filing and payment systems of income taxes has the potential of improving the overall process of tax filing and payment for the individual filer, while at the same time reducing the cost to both taxpayers and tax collection agencies.
Chatama (2013); Dorasamy *et al.* (2010)	Streamline procedures	The moment data or figures are entered in the system, it is sent to the central database or server. Thereafter, the process of revision or refund can be carried out efficiently, and the bottom line is speed.
Chatama (2013), IRS (2004) cited in Schaupp and Carter (2009)	Increase compliance and revenue	The mission statement for e-tax filing and payment systems is to ease taxpayer burden and increase compliance through innovative e-government solutions with the use of technology. The fact that revenue has increased proves that ICT use enhances tax administration.
Chatama (2013)	Transparency, anticorruption, accountability	The introduction of ICT use in CIT collections curbs cheating and plugs revenue loss.
Zakaria *et al.* (2009)	Perceived usefulness and perceived ease of use	The majority of taxpayers perceived the e-filing system as useful and easy to use. The advantage of e-filing is that it makes it easier for the taxpayer to fill tax forms virtually instead of manually. This helps decrease the time it takes to fill out the forms.
Kumar *et al.* (2007);Vasconcellos and Rua (2005)	Disseminations of tax information	It has opened a new medium of communication for individuals. There is a dissemination of information with the existing use of ICT from tax authority to taxpayers.

Table 3.7 The benefits of e-tax filing and payment systems (ICT in CIT collections)

The processes of tax filing and payment and e-tax filing and payment systems are summarised in Figures 3.2 and 3.3 (p.118) below. In manual filing and payment, five entities including printer, tax office, post office, taxpayer and bank and four processing activities are involved with the tax office. However, the e-filing and payment systems only incorporate the tax office, taxpayer and bank, and every process is done online.

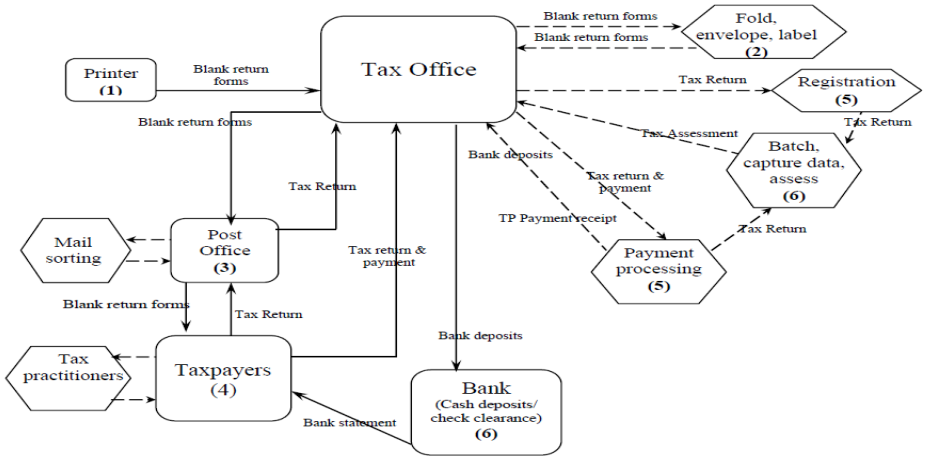

Fig. 3.2 Manual Tax Filing and Payment Processes
Source: Edwards-Dowe (2008)

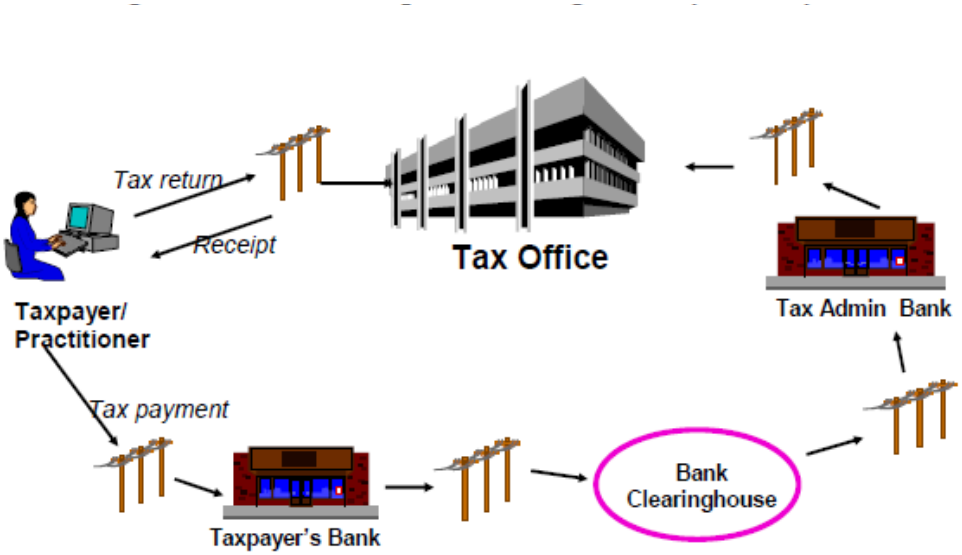

Fig. 3.3 Tax E-Filing and E-Payment Processes
Source: Edwards-Dowe (2008)

The research propositions from the literature will be discussed in the section 3.4.

3.4 Emergence of the Research Propositions from the Literature

This section discusses the five propositions of this study based on the literature in this chapter. This exercise is carried out by summarising the earlier reviewed studies, leading to the identification of limitations and knowledge gaps, as highlighted in the literature review, and determining how the current study aims to fill these identified gaps. The dynamic nature of IT places limitations on the extent to which the earlier studies' conclusions can be relevant to current situations. According to Cooper and Schindler (1998:43), "the research literature disagrees about the meaning of the terms proposition and hypothesis". A research proposition is a statement about the concepts that may be judged to be true or false if it refers to observable phenomena. When a proposition is formulated for empirical testing, it is known as a hypothesis.

The empirical aspect of this study is of an exploratory nature, and it is approached from a more pragmatic view, which will be more meaningful. The current study will use a research proposition rather than a hypothesis for these reasons.

These five propositions will be discussed in the following sub-section based on the above information.

3.4.1 Proposition I: The introduction of ICT has enhanced CIT collection and improved revenue generation

Explanation of the Literature Review

Author	Methods	Highlights of research/stud	Findings	Identified gaps

Chatama (2013)	Secondary data and literature reviews	The impact of ICT on taxation: the case of the Large Taxpayer Department of the Tanzania Revenue authority	The findings reveal that the impacts of ICT use reduced administrative and collection costs; processing time savings for taxpayers; fast; transparency in assessment, collection, and related processes; reduced tax compliance costs; reduced communication costs; and timely access to information and improve efficiency and performance in revenue collections.	Method used The availability of ICT infrastructure not curtained.
Rotimi *et al.* (2013)	Not stated	Revenue generation and engagement of tax consultants in Lagos State, Nigeria: continuous tax evasion and irregularities	The findings of the study reveal that tax evasion and avoidance are imminent and of course have a significant relationship with revenue generation of Lagos State.	The study failed to state the method used to collect the data and also failed to consider the impact of ICT
Geetanjali (2011)	A combination of content analysis, survey through in-depth interview and questionnaire and observations to collect data	ICT application in service delivery: a case of the Inland Revenue Department, Nepal	The findings show that the average response of service providers and seekers towards the effectiveness of e-services is positive. The study reveals that organizational factors (human resources, ICT infrastructure, financial resources and attitude of service providers) are associated with the effectiveness of e-services, while customer factors are not found to be associated with the effectiveness of e-services. It also reveals that the e – service of IRD is effective, and the organizational factors (not the customers' factors) influence e – service delivery.	The study failed to assess the customers' role in effective e-service delivery.
Chen *et al*. (2011)	Quantitative research methods	Factors influencing business adoption of online tax payment services	The findings reveal that perceived ease of use has a positive impact on perceived usefulness, structural assurance influences trust	The study targeted business users without considering

			positively; that perceived usefulness, perceived ease of use and trust have positive impact on attitude, and that trust and attitude influence behavioural intentions positively.	level of involvement in e-government and individuals.
Oluwakayode and Arogundade (2011)	Oralinterviews	The problems and prospect of using tax consultants	There had been a huge increase in internal revenue	Method used, the sample size, use of ICT and no provision in the tax laws to support the appointment of consultants
Carter *et al*., (2011)	Survey methods	The U.S. e-file initiative	The findings reveal that performance expectancy, social influence, computer anxiety, optimism bias and trust of the government all have a significant impact on intention to use an electronic tax filing system.	The sample was composed of graduate and undergraduate students
Adegbie and Fakile (2011)	Not stated	The company income tax and Nigeria's economic development relationship	The findings reveal that there is a significant relationship between company income tax and Nigerian economic development. Tax evasion and avoidance are major hindrances to revenue generation, on-compliance with tax laws on the part of the taxpayers is a hindrance and ineffective tax administration has given enough loopholes to lead to poor generation of this major source of income.	Fails to state the method used to collect primary and secondary data
Hussein *et al.* (2010)	Quantitative	An integrated model on online tax adoption in Malaysia	The findings reveal that trust of the government and web-based service quality are found to be a significant factors influencing citizens' intention to use e-tax filing system.	The survey was only targeting the academic staff as a sample from selected universities

				in Malaysia
Sang *et al*. (2009)	Secondary data and literature reviews	The contribution factors and challenges to the implementation of e-government in Cambodia	The findings reveal that political leadership and will, effective management within a complex and fragile environment, information and communication technology policy and capacity development are significant contribution factors. In addition, the poor ICT infrastructure, low literacy rates and high turnover among government IT staff members are emerging challenges to the implementation of the GAIS	The method used for data collection
Ozgen and Turan (2007)	Two methods: textual analysis and in-depth interviews	The usage and adoption of online tax filing and payment system in tax management: an empirical assessment of the Technology Acceptance (TAM) Model in Turkey	The findings of the study reveal that the government has carried out projects to use ICT technologies in tax management and to modernize the tax management in Turkey. It explains the government's plans and goals regarding e-taxation and the operation of an e-declaration system	The sample size of the survey was small .
Fu *et al.*, (2006)	Questionn aire	Acceptance of electronic tax filing	The findings reveal that electronic taxpayers intended to continue using the method, and manual taxpayers' usage intentions were relatively diverse	The method used
Ssewanya na and Busler (2007)	The questionna ire method	The extant of adoption and usage of ICT in firms, with a focus on computers and the internet	The findings of the study reveal that the adoption and usage of ICT by firms in developing countries follow the same pattern as in developed countries, and they only differ in the level of usage and adoption.	The governments ' policies to address barriers
Lai *et al.*, (2004)	Mail survey	The usage intentions, attitudes, perceptions and compliance considerations of Malaysian tax	The findings reveal that there is a strong usage intention; nonetheless, they are wary of the security of the e-filing system	Sample size; the study only provides a snapshot of the empirical evidence

		practitioners towards the e-filing system		collected
Dutt (2004)	Simple and highly operational model	The optimisation of corporate tax collection in developing countries- with particular application to Mozambique	The findings of the study reveal that the Mozambican government does not have the means to generate fair taxes to fight poverty, hence, fair distribution of wealth is in danger, which could lead to further tensions between south and north	Complex model used
Isaac and Lilian (2010)	Quantitative survey	Automation and customs tax administration as achieving efficiency and increase revenue	The findings suggest a positive correlation of automation and the cost of tax administration, automation and effectiveness of revenue collection, while automation is negatively and significantly related with tax clearance time	The results are not based on a fully completed automated system

Table 3.8 Explanation of the literature review on Proposition 1

The use of ICT in company income tax collection has increased efficiency and increased tax revenue (Carter *et al*., 2011; Martin *et al.*, 2010; Hussein *et al.*, 2010; Fu *et al.*, 2006; Ssewanyana and Busler, 2007; Turner and Apelt, 2004; Sang *et al.*, 2009; Lai *et al.*, 2004). US-IRS' (1986) point of view is that "returns filed electronically have a much lower error rate than paper returns, promote more efficient handling of returns, reduce the likelihood of mistakes, both facilitating a much quicker potential refund and discovering previously unknown opportunities for tax saving". "Taxpayers receive an immediate confirmation of accepted returns, and it improves the overall process of tax filing at the same time as reducing the cost to both taxpayers and tax collection agencies" (Fu *et al*., 2006). For the sake of convenience, speed of filing and in order to get a faster tax refund (Lai and Choong, 2008), "[the] e-tax payment system has also improved the effectiveness of the tax authority and expanded taxpayers' services" (Edwards-Dowe, 2008). According to Turgut (2007), "the tax

authority will benefit from developing ICT in fast and easy delivery of tax declaration forms, reduction of workloads of the tax authority in acceptance, calculation, accruement and collection and provision of better services to taxpayers". In recent years, more countries have been providing various e-services to satisfy the needs of citizens. "In various e-services, especially, e-tax is an important function of e-government since it is highly relevant to the life of citizens" (Wu and Chen, 2005). "Among the members of OECD, electronic tax return, payment systems and tax automation systems generated in this area gain an increasing importance" (Benk and Budak, 2011). "The e-Tax service is an important online service that enables citizens to file taxes online" (Hu *et al.,* 2009). "It is an important application that automates tax related processes in an attempt to improve efficiency in assessing and collecting tax information" (Fu *et al*., 2005). As the literature review demonstrates, Fu *et al*. (2006) and other scholars (Chang *et al*., 2005 and Hung *et al*., 2006) have established Taiwan as "a standout example among nations for the empirical study of the e-tax adoptions process" (Stafford and Turan, 2011).

"Despite these benefits associated with e-tax filing and payment systems, there are some identified possible drawbacks of ICT adoption in developing countries such as public perception of the e-tax filing system; studies have recognised that time is a cost and that consumers/users must pay for any use of products/services" (Sweeney *et al.,* 1999). However, Sang *et al.* (2009) discussed the challenges that face implementing e-tax filing including a variation in support among leadership, the lack of high prioritisation of e-government, poor ICT infrastructure, low rates of literacy and high turnover rates among government information technology staff. "A strong usage intention of e-tax filing varying because of its security and lack of confidence in the electronic administration capabilities of the tax authority have discouraged take-up of the e-filing system" (Lai *et al*., 2004). "Performance

expectancy, social influence, computer anxiety, optimism bias and trust of the government all have a significant impact on intention to use an e-tax filing system" (Carter *et al.,* 2011). Hussein *et al.* (2010) revealed that trust of the government and web-based service quality are significant factors influencing citizens' intentions to use an e-tax filing system.

It is noteworthy that none of the studies discussed above cover the benefits and drawbacks of using ICT or the adoption barriers, such as access and skills in developed countries that may vary in developing countries because of cultural and environmental differences. The current study will seek to assess the current effects of ICT usage in company income tax collection, covering both positive and the negative effects. In addition, it will seek to assess whether or not recent developments in ICT have taken care of drawbacks identified in the existing literature.

3.4.2 Proposition II: The use of ICT has an impact on tax compliance and compliance cost

Author	Methods	Highlights of research/study	Reported Findings	Identified gaps
Mohdali (2012) .	Self-administered survey constituting a drop-off survey and online survey; mixed-mode methods are used	The influence of religiosity on taxpayers' compliance attitudes. Empirical evidence from a mixed methods study in Malaysia	The findings reveal that religiosity is found to have a positive influence in encouraging taxpayers' willingness to comply with tax laws in Malaysia.	The study fails to consider the use of ICT
Muwonge (2011)	Self-administered questionnaire	The influence of the electronic tax filing system on tax	The findings reveal that the electronic tax filing system has improved tax	A single method was used

		collection and tax compliance	compliance and the attitudes of taxpayers; that the attitude of the Uganda Revenue Authority (URA) staff towards the use of e-tax is positive.	
Hai and See (2011)	Not stated	The intention of tax non-compliance	The findings of the study reveal that the literature review had been examined and helped identify gaps for future research towards behavioural tax non-compliance intention.	This study also failed to consider IT usage.
Ibrahim and Pope (2011)	Mail survey	The compliance costs of electronic tax filing for personal taxpayers in Malaysia	The findings reveal that only the time to submit income tax return forms and the time to get advice and help are significantly different between the e-filing and manual filing groups. Moreover, there are significant differences in the IT costs between e-filing and manual filing groups.	The study failed to consider time and commencement costs which are very significant in calculating the compliance cost.
Asante and Baba (2011)	Survey	Tax compliance among self-employed in Ghana: do demographic characteristics matter?	The findings reveal that female, educated, older and married self-employed people in Ghana are less tax non-compliant, and the study also confirms that of	The use of IT

			Richardson and Sawyer (2001), who concluded that married taxpayers are more compliant than unmarried taxpayers	
Palil (2010)	Interview	Tax knowledge and tax compliance determinants in the self-assessment system in Malaysia	The findings reveal that tax knowledge has a significant impact on tax compliance, and tax compliance is influenced specifically by the probability of being audited, perceptions of government spending, penalties, personal financial constraints and the influence of referent groups.	The study fails to address IT use in tax collection.
Nawaz (2010)	Interview	The relationship between corruption and tax revenue	The findings reveal that higher tax rates can induce more corruption in an economy by incentivising tax evasion.	The study fails to consider the use of ICT in taxation schemes.
Hanefah (2007)	Not stated	Tax systems, taxpayer compliance and specific tax issues.	The findings reveal that an e-filing system leads to lower compliance costs of taxpayers due to the paperless environment	Mixed methods should be adopted to better understand the perception of taxpayers on time and money spent.
Kasipillan and Jabber (2006)	Personal interview	Tax compliance	The findings reveal that tax knowledge has a significant impact on tax	The study fails to consider the use of IT.

			compliance, even though the level of tax knowledge varies significantly among respondents. They also reveal that probability of being audited, perception of government spending, penalties, personal financial constraints, and the influence of referent groups influence tax compliance.	
Lai (2005)	Mail survey	Technology readiness, internet self-efficacy and computing experience of professional accounting students	The findings reveal that there is a strong usage intention; nonetheless, they are wary of the security of the e-filing system	Lack of confidence in the electronic administrative capabilities of the tax authority; the study considered the tax practitioners and failed to consider the taxpayers' intentions.

Table 3.9 Explanation of the literature review on the use of ICT having an impact on tax compliance and compliance cost

The use of ICT in CIT collection reduces the costs of collection and compliance. The e-tax payment system has a positive impact on tax compliance. "Using e-tax can improve accuracy and efficiency over paper-based filing, lower costs and faster refunds" (Pant *et al*., 2004). "The e-government can reduce the costs of manual data entry and processing, eliminate

human errors, and reduce the turnaround time for processing income tax return" (Hu *et al*., 2009).

E-filing and payment systems lead to lower compliance costs of taxpayers due to the paperless environment (Hanefah, 2007; Ibrahim and Pope, 2011; Lai, 2005; Palil, 2010; Niemirowski and Wearing, 2003; Kasipillan and Jabber, 2006; Asante and Baba, 2011). "Tax knowledge has a significant impact on tax compliance, influenced by probability of being audited, perceptions of government spending, penalties, personal financial constraints, and the influence of referent groups" (Palil, 2010). However, Kasipillan and Jabber (2006) confirmed that gender, academic qualifications and the person preparing tax returns were statistically significant as determinants of a non-compliant attitude. "Female, educated, older, and married self-employed people are less tax non-compliants; more tax[es] could be collected from these groups than it could from their counterparts" (Asante and Baba, 2011). Richardson and Sawyer (2001) concluded that married taxpayers are more compliant than unmarried ones. Adam Smith (1776) was the first to discuss the tax issue and set out four maxims for a good tax policy: equality (equity), certainty, convenience of payment and economy of collection. On the economy of collection, he reveals that "every tax ought to be so contrived as both to take out and to keep out of the pockets of the people as little as possible over and above what it brings into the public treasury of the state" (Smith, 1776: 645). Compliance costs are important because they reflect the complexity of a tax system. "Increased complexity in the company income tax system can lead to tax evasion and avoidance. Countries such as Australia, the UK and New Zealand have already adopted Compliance Costs Assessment or Tax Impact Statements as a regular component of policy-making" (Evans and Walpole, 1997; Sandford, 1995).

"Lack of voluntary compliance by taxpayers undercuts effective administration of almost every tax and forces the administration to rely on easily collected taxes" (Lai *et al*., 2005). "It gives citizens more control over how and when they interact with the tax authorities and, instead of visiting a department at a particular location or calling tax authority personnel at particular times specified by the government, citizens can choose to receive these services at the time and place of their choice" (Kumar *et al*., 2007). "It will also provide a platform for the revenue body to evaluate the complexity of current CIT system and compare the difference between the burdens under the electronic and manual filing systems" (Kulis, 2003). According to Xuyang (2012), despite these benefits of the e-tax service and the promotion by government and tax authorities to encourage more citizens to use the e-tax service, there are also many taxpayers unwilling to give up the traditional mode of paying their taxes. Fu *et al*. (2004) state that, in Taiwan, 40% of all taxpayers switched to e-tax in 2003.

3.4.3 Proposition III: The use of ICT has increased company income tax collection information dissemination.

Author	Methods	Highlights of research/study	Reported Findings	Identified gaps
Kamil (2012)	Not stated	Information technology (IT) brings relief to revenue agencies	The deployment of ICT solutions assist revenue agencies to effectively and efficiently discharge their mandate in terms of identification and registration of tax payers, returns and payment processing, audit, accounting and other tax administration functions	Method used
Martin *et al*.	Not stated	E-services in	The findings reveal	Method used; one

(2010)		Albania	that e-government in Albania is still in its early stages and the efforts made so far towards the electronic dissemination of information have had a positive impact with respect to an increased governance transparency	of the reasons given for the low level of ICT knowledge is the lack of understanding of the benefits that the use of the ICT has to offer.
Schaupp and Carter (2009)	Survey method	Propose a model of e-filing adoption to assess citizen perceptions of trust, risk and optimism bias	The findings reveal that trust of the internet, trust of the e-filer, perceived risk and optimism bias all have an impact on intention to use e-filing.	The sample used; the sample is composed of graduate and undergraduate students.
Bhatnagar (2003a; 2003b)	Not stated	Transparency and corruption: does e-government help?	The findings revealed that transparency and efficiency in the public service delivery system reduced corruption	Inferences from only few case studies are used; limited in presenting the discussion on accountability at the "policy level" of government
Im (2001)	Case study	Using ICT to strengthen government transparency and relations with citizens in Korea.	The findings reveal that ICT has dramatically affected the practice of government; the development of ICT has resulted in greater efficiency in government and in strengthening government-citizen connections by ensuring transparency, openness and participation via the internet.	Method used in data collection using case study may not allow the generalisation of study.

Table 3.10 Explanation of the literature review on the use of ICT increasing company income tax collection information dissemination.

Vasconcellos and Rua (2005) stated that "the world's dissemination of microcomputers and their interconnection through the internet at the end of 1980s led to the adoption of what is called Information and Communication Technologies (ICT), symbolizing the integration of information systems with data communication and the result from this trend was the possibility of providing information and services at a distance to the citizens through the good practices of electronic government". A new medium of communication has been created by using ICT in company income tax collection for individuals and businesses, with opportunities to communicate and obtain company income tax information in an entirely different way. Technological development opens up new routes of company income tax communication between a tax authority and its taxpayers.

The tax authority needs to make company income tax system information available in the right form to company income taxpayers, both at individual and organisational levels, and at the right time. The use of ICT has made it possible to cope with a vast amount of information faster and more efficiently, which benefits both the tax authority and taxpayers. Information provision should not be limited to one-time dissemination of amendments to the tax code, newly issued rules and regulations. The use of ICT has enabled the tax authority to provide company income tax information on a continuous basis, which is vital to improving compliance. Chen *et al.* (2006) identified ICT as "the use of man-made tools for the collection, generation, communications, recording, re-management and exploitation of information". "It includes those applications and commodities, by which information is transferred, recorded, edited, stored, manipulated or disseminated" (Anyakoha, 1991). Chatfield (2009) identified that the use of ICT has reduced tax collection costs internally, and reduced compliance costs by providing news conveniently and faster, and improved public services. "ICT enables the tax authority to provide company income taxpayer services because one of its missions is to facilitate a proper and fair taxation" (Maumbe *et al*., 2008). "To achieve voluntary compliance, the tax authority needs to provide necessary company

income tax information that is understandable and timely to taxpayers" (Carter and Weerakkody, 2008). The availability of required information to the taxpayers will make tax payment procedures much easier and taxpayers' confidence will also improve. "Some important factors that need to be considered when providing information are that the service is accurate, understandable, quick, kind, polite, and courteous" (Hussein *et al.,* 2010; Basu, 2004; Ndu, 2004). "The use of ICTs has improved information flow between the tax authority and company income taxpayers and at the same time ICT connects people within rural areas proving that illiteracy of rural communities may no longer be an excuse to deny payment of taxes" (Lee *et al.,* 2011; Chatfield, 2009). The Swedish Program for ICT in Developing Regions (SPIDER) developed a list of the possible areas in which ICTs can help combat corruption. (Grönlund, 2010): "automation, which can reduce the opportunities for corruption in repetitive operations; transparency, which can help reduce the room for discretion; detection in operations, to identify anomalies, outliers and underperformance; preventive detection through monitoring of networks and individuals; awareness raising to empower the public and inform it about its right to resist arbitrary treatment; reporting, to create complaint channels that can lead to concrete action and help punish violations and close loopholes; deterrence, by disseminating information about reported cases of corruption; and promoting ethical attitudes through public engagement and online discussions". "ICT use facilitates seamless sharing of information across company income tax collectors" (Maumbe *et al*., 2008). Fu *et al*. (2006) define e-filing as "an important application that automates tax-related processes in an attempt to improve efficiency in assessing and collecting tax information". "The moment data or figures are entered into the system, they are sent to the central database or server and the process of revision or refund can be carried out efficiently" (Dorasamy *et al.,* 2010). According to Dorasamy *et al.* (2010), "the e-filing system provides easy, accurate, safe and fast processing compared with manual procedures and the system imposes no risk of

loss of mails and produces a high accuracy rate as the e-filing computes the tax for taxpayers". "The implementation of information technologies, particularly using the internet to improve the efficiency and effectiveness of internal government operations, communications with citizens, and transactions with both individuals and organisations, has brought about the term e-government or electronic government" (Berdykhanova *et al.,* 2010).

The increased availability of public information disseminates from the tax authority to company income taxpayers through radio and websites, as well as information requests submitted by taxpayers and queries answered by tax officials. Most of the scholars named above used simple quantitative tools to measure tax information dissemination, instead of a generalised and expanded treatment of both qualitative and quantitative techniques. The current study will consider different working groups and examine their different perceptions and ICT knowledge levels to extract a more accurate scenario of e-filing intentions and usage, which none of the previously mentioned studies have done.

3.4.4 Proposition IV: The use of ICT has improved transparency.

Author	**Methods**	**Highlights of research/study**	**Reported Findings**	**Identified gaps**
Kamil (2012)	Not stated	Information technology (ICT) brings relief to revenue agencies	The deployment of ICT solutions assist revenue agencies to effectively and efficiently discharge their mandate in terms of identification and registration of tax payers, returns and payment processing, audit, accounting and other tax administration functions	Method used
Martin *et al*., 2010	Not stated	E-services in Albania	The findings reveal that e-government in	Method used; one of the reasons

			Albania is still in its early stages and the efforts made so far towards the electronic dissemination of information have had a positive impact with respect to an increased governance transparency	given for the low level of ICT knowledge is the lack of understanding of the benefits that the use of ICT has to offer.
Schaupp and Carter (2009)	survey method	Propose a model of e-filing adoption, to assess citizen perceptions of trust, risk and optimism bias	The findings reveal that trust of the internet, trust of the e-filer, perceived risk and optimism bias all have an impact on intention to use e-filing.	The sample used; the sample is composed of graduate and undergraduate students.
Bhatnagar (2003a; 2003b)	Not stated	Does e-government help transparency and corruption?	The findings revealed that transparency and efficiency in the public service delivery system reduced corruption	There were inferences from only few case studies; limited in presenting the discussion on accountability at "policy level" stage of government
Im (2001)	Case study	Using ICT to strengthen government transparency and relations with citizens in Korea	The findings reveal that ICT has dramatically affected the practice of government; the development of ICT has resulted in greater efficiency in government and in strengthening government-citizen connections by ensuring transparency, openness and participation via the internet.	Method used and lacks sufficient labour with expertise in ICTs

Table 3.11 Explanation of the Literature Review on the use of ICT improving transparency

Transparency refers to the organisation of information on e-government that reveals the depth of access it allows, the depths of knowledge about processes it is willing to reveal, and

Monga (2008) reveals that e-governance has brought about a revolution in the quality of service delivery to citizens by improving transparency in the administrative process, saving time due to single window service provisions, simplifying procedures, reducing corruption, improving office and record management and improving the attitude and behaviour of civil servants. The use of ICTs has introduced transparency in company income tax collection and strengthened the tax authority's relationship with taxpayers. "[The] use of ICT in company income tax collection allows tax data entry, automated processing, computation and analysis as well as automatic production of tax reports and feedback required for control and risk management purposes" (Moore, 1999; Holniker, 2005; Partch, 1997). The use of ICT has encouraged taxpayers to make their complaints and provide information on any tax authority staff taking bribes (Turgut, 2007). ICT usage eliminates bribery and increases transparency of rules, procedures and service delivery (Napierala and Kiefer, 2009). "Fraud or sharp practices inherent in manual transaction processing is eliminated in a fully automated revenue administration system and [has] led to improvement in the revenue base of the government," (Kamil, 2012). According to Vasudevan (2007), "ICT leads to increased collection of taxes due to the uniform application of laws and regulations, the ICT calculation of tax dues and built-in security". ICTs are democratic media with ease of access, comparative ease of use, great data capacity and the immediacy of swift updating. Several non-financial benefits are also important, such as an increase in taxpayers' satisfaction, better transparency and easier control and data processing, which the study fails to consider. The current study will examine these factors. ICT usage in company income tax collection can also result in huge cost

savings to the tax authority and taxpayers alike, increase transparency and reduce corrupt activities in public service delivery. The use of ICT has tremendously increased the transparency of tax authority services. The use of ICT allows performance of tax authority functions online, as well as receipt of feedback from taxpayers. Previous studies have categorized public service delivery into three groups: publishing, interacting, and transacting (Kumar *et al.,* 2007). Service delivery is also more transparent to the taxpayers, who have the possibility of executing control over the service delivery process by accessing their own files. According to Dutt (2004), an improved transparent tax collection system is desirable for many reasons, including the following:

i) Given the notorious budget deficits, revenue is often much needed and will enhance a country's ability to invest in under-served sectors such as health and education; the revenue enhancement aim was the primary one stated in two-thirds of World Bank projects that involved tax revenue enhancement. Other studies confirm that "helping governments increase their capacity to collect revenue (through tax reform) is a legitimate part of a strategy to reduce poverty" (World Bank, 2000).

ii) In the long-term, this aim is even more important; creating a transparent and universal tax system establishes government legitimacy and creates a climate of trust. Only with this sense of security (and lack of randomness) will investors (both domestic and international) be confident enough to invest in a country, and only through long-term investments can a country hope to establish a sustainable and growth-based economy.

According to Schuppan (2009), the spending behaviour of autonomous tax administrative units (agencies) can be better supervised, which simultaneously reduces the possibilities for

manipulation and corruption. An efficient, fair and transparent tax system not only improves fiscal performance, but also furthers good governance and strengthens state legitimacy.

The ICT delivery of a wider range of tax authority/taxpayer-oriented services has done the following: reduced bureaucratic delays, made administrative procedures more transparent and visible, used tax authority human resources more efficiently and contributed to spread IT literacy among taxpayers (Mugume, 2006). The service delivery is also more transparent to the taxpayers, who have the possibility of executing control over the service delivery process by accessing their own files (Eugene, 2011). "E-filing has the potential to improve the overall process of tax filing for the individual, while at the same time reducing the cost to both taxpayers and tax collection agencies" (Fu *et al*., 2006). At the same time, the number of returns that require verification and correction has been reduced, and fines for incomplete tax returns have been eliminated since the system rejects such returns. The e-filing system is one of the strategies to facilitate tax compliance and to achieve tax administrative and compliance efficiency. The primary goal of a tax authority system is to ensure compliance with tax laws. Promotion of voluntary compliance is needed to achieve this goal, which becomes a primary concern when determining how the tax authority interacts with the taxpayer and how its staff influences perception of the tax system. Security and privacy protection is more or less guaranteed by the implementation of adequate organisational, technical and legal measures (Parasuraman, 2000). According to Leitman *et al.* (1996), the difficulties are the deficient tax authority and collection system, complex legislation and apathy of Nigerians caused by the lack of value received in return for their taxation money. This study will examine the effectiveness of FIRS and the usage of ICT in company income tax revenue collection.

3.4.5 Proposition V: The use of ICT makes a potential contribution to effectiveness and efficiency in company income tax collection

Author	Methods	Highlights of research/study	Reported Findings	Identified gaps
Lee *et al.* (2011)	Not stated	The willingness towards e-government service adoption by business users	The findings reveal that the willingness to adopt e-government increased when business users perceived high quality service provision in offline service channels	Method used
Isaac and Lilian(2010)	Quantitative survey	Automation and customs tax administration as achieving efficiency and increase revenue	The findings suggest a positive correlation of automation and the cost of tax administration, automation and effectiveness of revenue collection, while automation negatively and significantly related with tax clearance time	The results are not based on a fully completed automated system.
Chatama (2013)	Secondary data and literature reviews	The impact of ICT on taxation: the case of the Large Taxpayer Department of Tanzania Revenue Authority	The findings reveal that the impacts of ICT use reduced administrative and collection costs; processing time savings for taxpayers due to fast processing; transparency in assessment, collection, and related processes; reduced tax compliance costs; reduced communication costs; and timely	Method used.

			access to information and improved efficiency and performance in revenue collections.	

Table: 3.12 Explanation of the literature review on the use of ICT making a potential contribution to effectiveness and efficiency in company income tax collection

The efficiency of the tax authority is defined as costs, tax clearance time and effectiveness of revenue collection (Isaac and Lilian, 2010). The tax authority should be effective in the sense of ensuring high compliance by taxpayers, and at the same time efficient in the sense that administrative costs are low relative to revenue collected. The use of ICT has become an important vehicle for achieving efficiency in company income tax collection (UNCTAD, 2006). Several studies associate a significantly positive impact of ICT on containing the high cost, time inefficiency, ineffective manual procedures of TA and revenue collection, corruption, delays, computing errors (Vasudevan, 2007; Peled, 2000). These scholars posit that ICT is an avenue to efficiency and effectiveness in terms of clearance time and cost of revenue collection. The use of ICT greatly reduces the time needed by the tax authority's officials to manage the information received and to provide necessary answers. The increased availability of public information is measured by the amount of information disseminated from the tax authority to taxpayers through radio and websites, as well as the number of information requests submitted by taxpayers and queries answered by tax officials (Zineldin, 2007). However, prior to the use of ICT, two steps had been required in order to process tax return forms within the competent office, which were the submission of the tax return form followed by payment of taxes. ICT allows taxpayers to file returns online and receive an assessment immediately instead of after several days, as was necessary under the earlier

manual system. ICT has also saved money by reducing printing, distribution and processing time and has increased the accuracy of tax collection. It has equipped company income tax collection with the resources it needed for the near future and offered taxpayers a higher standard of service along with swift, easy access to vital tax information. ICTs offer the potential not just to collect, store, process and diffuse enormous quantities of information at minimal cost, but also to network, interact and communicate across the world (Crede and Mansell, 1998). The potential of ICT has been widely discussed in the literature (Heeks and Arun, 2006; Bhatnagar and Schware, 2000). Cost reduction and efficiency gains (Tapscott, 1996) are benefits of e-government (including e-tax), as identified by several studies and cited in Ndou (2004). "The quality of service delivery to businesses and customers, transparency, anticorruption, accountability, increase in the capacity of government, network and community creation and improving the quality of decision making and promote use of ICT in other sectors of society" (Amit and Zott, 2001; Mal-hotra, 2001). The use of ICT also offers particular potential to improve financial and taxation systems, especially because governments in sub-Saharan Africa often lack a well-functioning tax authority and finance administration system (Harindranath and Sein, 2007). Tan *et al.* (2005) identified that it is important for government to embrace e-filing as one of its endeavours to restore taxpayers' trust in the e-filing system. In developed countries, various benefits have been brought about by the impact of ICT on company income tax collection as the source of a government's revenue; the tax authorities in developing countries, mostly Nigeria, still experience some hindrances in the effectiveness and efficient use of ICT for income tax collection. Lai (2006) identified that e-filing has many benefits; nonetheless, the inherent weaknesses and insecurity of the e-filing system have thwarted the benefits. Odusola (2006) identified that revenue realized from income tax is low because of low levels of literacy, poor relationship between taxpayers and income tax authorities, and the inadequate number, or complete absence, of

trained and qualified accountants on the staff of tax authorities. Unqualified staff do not know how to get information or the technical methods of how best to use information made available to them. "Most of the desired potential business benefits are achieved through this ongoing process where, along with some fine tuning of the technology, the organisation modifies its work practices, skill-sets, business processes, and norms to develop a better fit, utility, and value" (Bhatnagar, 2002). This study on Nigeria will examine the factors that influence the use of ICT in company income tax collection and at the same time those factors that are militating against the adoption of ICT in company income tax collection.

3.5 Summary

This chapter, after an introduction, began with an overview of company income tax. The next subjects reviewed were the introduction of ICT in taxation, e-government, e-tax, e-filing, and e-payment. The chapter primarily presented relevant research efforts in order to assess and identify the gaps, an explanation of how the five research propositions were derived from the literature and how this study intends to fill the knowledge gaps, as shown below:

Identified gaps	**How the researcher intends to fill the knowledge gaps**
Methods used (single)	The current study will adopt mixed methods to minimise the weakness of using a single method, and it will ensure the validity of gathered data.
Some previous studies failed to state the method used to collect the data.	The present study will fill this gap by clearly stating the methods used in data collection.
Some studies focused on tax as fiscal responsibility without considering the use of ICT for tax effectiveness and efficiency.	The present study will fill the gap with an introduction to ICT in CIT collection.
Some studies' samples are composed of graduate and undergraduate students.	In the present study, the views of those users (operators) who may be more knowledgeable and comfortable with technology than the average citizen may be captured.

Table 3.13 Identified gaps and how the researcher intends to fill them

This study will make several useful research contributions, which among other things include the areas suggested for future work and questions that are important to company income tax collection in developing countries, especially in Nigeria.

The rest of the study is divided into four chapters: the next chapter discusses the review of relevant theories, chapter 5 provides the research methods it proposes to apply, chapter 6 provides the data analysis and chapter 7 includes the conclusions, recommendations and suggestions for future studies.

Chapter Four
Review of Relevant Theories

4.0: Introduction

This chapter describes the review of the existing theoretical models on technology adoption in order to identify the most appropriate theoretical background for this study. "How and why individuals choose to adopt new technologies has forever been the focal point of information system (IS) research," (Schaupp and Carter, 2009). According to Moody *et al.* (2010), "the heart of any research field is its theories and the core theories of a field define its distinct identity". Theory is also a necessary prerequisite for conducting research; collecting data without theory is not research but observation or reporting (Dubin, 1978).

There are well known research models applied to information technology (IT) system adoption such as the Theory of Reasoned Action (TRA) (Fishbein, 1967; Fishbein and Ajzen; 1980); the Theory of Planned Behaviour (TPB) (Ajzen, 1991); and the Technology Acceptance Model (TAM) (Davis, 1989; Davis *et al*., 1989). In addition, recently, the Diffusion of Innovation (DOI) (Rogers, 1995) and the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh *et al.,* 2003) identified factors that affect an individual's intention to use or actual use of information technology. TRA will be discussed in the next section.

4.1 Theory of Reasoned Action (TRA)

The Theory of Reasoned Action (TRA) was originally developed by Fishbein (1967) and extensively refined and tested by Fishbein and Ajzen (1975). The Theory of Reasoned Action defines relationships between beliefs, attitudes, norms, intentions and behaviour, as shown in

Figure 4.1 below. The Theory of Reasoned Action predicts and understands an individual's behaviour by considering the effect of personal feelings (attitude) and perceived social pressure (subjective norm). The Theory of Reasoned Action posits that beliefs influence attitudes, which in turn lead to intentions and then generate behaviour. "The Theory of Reasoned Action is one of the basic theories in psychology that has been utilized broadly to predict behaviour", (Fishbein and Ajzen 1975).

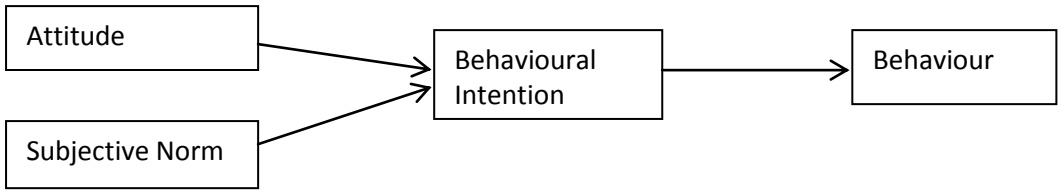

Fig. 4.1 Theory of Reasoned Action (TRA)
Source: Ajzen and Fishbein (1980)

The strengths and weaknesses of the Theory of Reasoned Action (TRA) are stated in Table 4.1 below.

Author	Strengths	Weaknesses
Theory of reasoned action (TRA) proposed by Fishbein and Ajzen (1975)	1) Strong predictive power of consumer's behavioural intention that has been demonstrated with a wide variety of consumer products 2) TRA is a well-researched theory designed to explain virtually any human behaviour.	1) Consumers do not have complete control over their behaviour in some conditions. 2) The direct effect of subjective norms on behavioural intention is difficult to isolate from the indirect effects of attitudes 3) Did not include personality characteristics, demographic or social roles that influence behaviours

Table 4.1: The strengths and weaknesses of the Theory of Reasoned Action (TRA)

The next section will discuss the Theory of Planned Behaviour (TPB).

4.2 The Theory of Planned Behaviour (TPB)

The Theory of Planned Behaviour (TPB) was developed by Ajzen (1985), and it extended the Theory of Reasoned Action (TRA) by incorporating an additional construct, namely perceived behavioural control (PBC) to account for situations in which an individual lacks substantial control over the targeted behaviour (Ajzen, 1991; cited in Wang, 2012), as shown in Figure 4.2 below. It was proposed that, in addition to attitudes toward use, subjective norms and perceived behaviour control such as skills, opportunities and resources needed to use the system also influence behaviour. "[The] Theory of Planned Behaviour is one of the most influential models in predicting behavioural intentions and behaviours, and it has been comprehensively validated in the behavioural domain" (Ajzen, 1991; Ajzen and Driver, 1991; Madden *et al.*, 1992; Parker *et al*., 1995 and Ajzen, 2010). "[The] Theory of Planned Behaviour provides more specific information that guides development" (Mathieson, 1991). "[The] theory of Planned Behaviour (TPB) posits that individuals make rational choices to engage (or not engage) in the behaviour of interest" (Ajzen, 1991). The choices made are influenced by individuals' own beliefs about the outcome and the evaluation of the favourableness (or unfavourableness) of the outcomes from engaging in the target behaviour. According to Smart (2013), "these beliefs and expected outcomes underlie three conceptually distinct salient beliefs, which are central to the TPB Model: behavioural beliefs (perceived beliefs about the likely outcomes from engaging in the target behaviour and the evaluation of the desirability of these outcomes); normative beliefs (perceived social pressure); and control beliefs (perceived ease or difficulty of engaging in a desired/undesired behaviour)". Collectively, these elements influence individuals' intentions to engage in the target behaviour. According to Chau and Hu (2001), "an individual's behaviour can be explained by his or her behavioural intention, which is jointly influenced by attitude, subjective norms and

perceived behavioural control". "[An] attitude variable can be regarded as the mediating variable which influences the behaviour intention and subjective norm (SN) is the social pressure exposed to the person or the decision maker to perform the behaviour" (Benk and Budak, 2011). TPB has been successfully applied to the understanding of individual acceptance and the use of many different technologies (Harrison *et al.*, 1997; Mathieson, 1991; Taylor and Todd, 1995b).

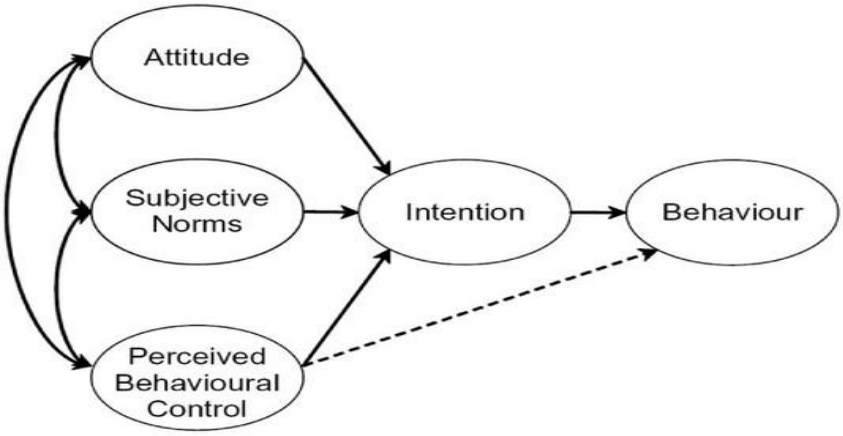

Fig.4.2 The Theory of Planned Behaviour (TPB)
Source: Ajzen (1985, 1991)

The strengths and weaknesses of the Theory of Planned Behaviour (TPB) are stated in Table 4.2 below.

Authors	**Strengths**	**Weaknesses**
Theory of planned behaviour (TPB), proposed by Ajzen (1985)	1) A broader model compared to TRA 2) The theory has received substantial empirical support for predicting behaviour in information systems and other domains	1) Constructs are difficult to define and measure in the study. 2) The model suffers from multicollinearity among the independent variables.

Table 4.2 The strengths and weaknesses of the theory of planned behaviour (TPB)

The next section discusses the Technology Acceptance Model (TAM).

4.3 Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), developed by Davis (1989), was adapted from the Theory of Reasoned Action (TRA) by Ajzen and Fishbein (1980) and Theory of Planned Behaviour (TPB), developed by Ajzen (1985) and tailored to the context of technology acceptance and usage. The final conceptualization of the Technology Acceptance Model (TAM) (Davis, 1989; Davis *et al*., 1989), unlike the Theory of Reasoned Action, excludes the attitude construct in order to better describe intention parsimoniously. It has two constructs, which are perceived ease of use (PEOU) and perceived usefulness (PU), and these constructs determine a user's attitude towards use of that technology, which in turn, influences the behavioural intention to use technology. Perceived usefulness (PU) is defined as the user's perception of the degree to which using the system will improve his or her performance in the workplace, while perceived ease of use (PEOU) refers to the user's perception of the amount of effort needed to use the system (using a particular system would be free of effort).

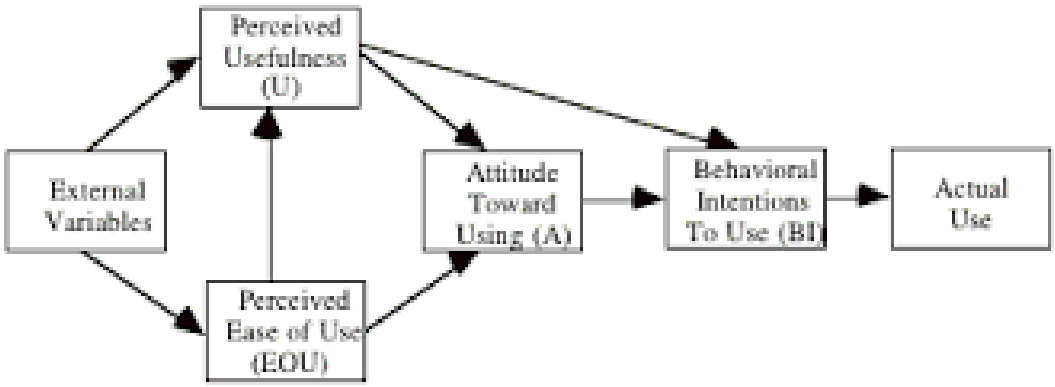

Fig. 4.3 Technology Acceptance Model (TAM)
Source: Davis (1989)

Alryalat *et al.* (2013) examined the role of usefulness, ease of use and social influence on Jordanian citizens' intentions to adopt e-government. The study aimed at developing and empirically testing an extended technology acceptance model (TAM) that integrates social influence with the TAM constructs. The study used the survey method, since the study involves formulating and testing hypotheses (Choudrie and Dwivedi, 2005; Galliers, 1992). The findings of the study revealed that all three independent constructs significantly affected Jordanian citizens' behavioural intentions to adopt e-government. The literature review revealed that there has not been any study in the context of Jordan which has attempted to empirically examine either citizens' or organisations' perspectives of e-government adoption. The findings from this research are likely to be useful for the Jordanian government in terms of developing a user-friendly system that encourages citizen and organisational participation in e-government adoption.

4.3.1 External Variables

A key purpose of TAM is to provide a basis for tracing the impact of external variables on internal beliefs, attitudes, and intentions, and it suggests that perceived ease of use (PEOU) and perceived usefulness (PU) are the two most important factors in explaining and predicting system use (Davis,1989). However, some scholars confirm that external variables are mediated by PEOU and PU and that any additional variable contributes little to the explanation of the variance in IT systems. Some scholars also say that the external variables provide a better understanding of what influences PU and PEOU, and their presence guides the actions required to influence greater use of IT systems. Table 4.3 (p. 146) presents the external variables considered by some scholars.

Author and Date	External variable
Park (2009)	Individual factor; social factor and organisational factor
Chuttur (2009)	Actual system's features and capabilities
Burton-Jones and Hubona (2006)	System experience, level of education and age
Jackson *et al.* (1997)	Situational involvement, intrinsic involvement, prior use, argument of change
Igbaria *et al.* (1997)	Internal computing support, internal computing training, management support, external computing support, external computing training
Dishaw and Strong (1999)	Tool functionality, tool experience, task technology fit, task characteristics
Agarwal and Prasad (1997)	Role with regard to technology, tenure in workforce, level of education, prior similar experiences, participation in training
Lucas and Spitler (1999)	Quality perceived subjectiveness
Karahanna *et al.* [1999]	Compatibility, trainability, visibility, result demonstrability
Venkatesh and Davis (1996)	Subjective norms, voluntariness, image, job relevance, output quality, result demonstrability
Venkateshand Morris (2000)	Gender, experience
Chau (1996)	Implementation gap, transitional support
Davis *et al.* (1989)	Computer self-efficacy, objective usability, direct experience

Table 4.3 External variables
Source: Adapted from Legris *et al.* (2003)

The strengths and weaknesses of the Technology Acceptance Model (TAM) are stated in Table 4.4 below.

Authors	Strengths	Weaknesses
Technology of Acceptance Model (TAM) proposed by Davis (1989)	1) Numerous empirical studies have found that TAM consistently explains a substantial proportion of the variance in usage intentions and behaviours with a variety of information technologies. 2) The direct effect of subjective norms on behavioural intention has yielded mixed results in the past. This theory used perceived usefulness and perceived ease of	1) Ignores some important theoretical constructs 2) TAM does not reflect the variety of user task environments and constraints

	use to replace the subjective norm. 3) TAM is a robust, powerful, and parsimonious model for predicting user acceptance of information technologies. 4) It has been used in many empirical studies and proven to be of quality and statistically reliable.	

Table 4.4 The strengths and weaknesses of the Technology Acceptance Model (TAM)

In a related study, Chen and Huang (2006) predicted taxpayers' acceptance of online taxation use. The study proposed an extended model to predict users' acceptance of an online taxation system for their personal income based on TAM and diffusion of innovation (DOI). The findings revealed that taxpayers' attitudes toward using online taxation are strongly and positively correlated with users' acceptance. The empirical results confirm that PEOU, PU, compatibility, and Perceived Risk (PR) significantly influence taxpayers' attitudes toward using Online Tax Systems (OTS). It also confirmed the significant effect of PEOU of the OTS on perceived usefulness. The findings also show that compatibility, PU, PR and the attitude toward using OTS influence taxpayers' intentions to use an online taxation system.

The summary of prior studies about understanding perceived ease of use (PEOU) in various contexts and the scopes of research are shown in Table 4.5 below.

Author(s)	**Research setting**	**Study sample(s)**	**Instruments /model**	**Key findings on perceived ease of use (PEOU)**
Fu *et al.* (2006)	Taiwan	Individuals	TAM	A manual taxpayer's decision to adopt e-tax method is influenced by perceived ease of use (PEOU) and social pressures. Perceived usefulness (PU) was found to be the strongest determinant and explained most of the variance in Behavioural Intention (BI).
Ramayah (2006a)	Malaysia	Students	TAM	This study on the subject of perceived ease of use (PEOU) of

				USMs' digital ranked highest in the order of influence on ease of use, followed by organisational context and individual differences.
Ramayah (2006b)	Malaysia	Students	TAM	Interface characteristics were found to be strong predictors of perceived ease of use (PEOU). Screen design was found to be a significant predictor of perceived ease of use (PEOU). Navigational clarity was only weakly correlated to PEOU. Perceived usefulness (PU) was also found to be positively related to the intention to use online.
Gopi (2006)	Malaysia	Individuals trading in Bursa Saham, Malaysia	Compared DTPB, ITPB,TAM and IDTPB	Perceived usefulness (PU) is the most significant factor in determining the attitude towards using internet stock trading compared to perceived ease of use (PEOU). There was a significant positive relationship of perceived ease of use (PEOU) towards perceived usefulness. The integrated DTPB model was concluded to be the better model.
Vennila (2006)	Malaysia	College students	Social Cognitive theory/TAM	CANX has a negative effect on perceived ease of use (PEOU). Personal innovativeness is positively correlated to perceived ease of use (PEOU). Computer playfulness has a direct relationship with perceived ease of use (PEOU)
Ndubisi *et al*. (2005)	Malaysia	Malaysian entrepreneurs	TAM	Perceived ease of use (PEOU) has no direct relationship with usage. Perceived usefulness has a strong influence on entrepreneurs' system usage.
Lu *et al.* (2003)	USA	Students	TAM	The attitude towards using is jointly determined by perceived near-term and long-term usefulness and perceived ease of use (PEOU). Perceived near-term usefulness is also influenced by ease of use.

Jantan *et al.* (2001)	Malaysia	SMI	TAM	Management support was found to be a determinant and have a positive direct influence on both perceived ease of use (PEOU) and perceived usefulness. External computing support has a positive direct influence on perceived ease of use (PEOU) only.
Venkatesh (2000)	USA	Employees of three organisations	TAM	Determinants of system specific perceived ease of use (PEOU) as individuals evolve from early stages of experience to later stages of experience. With experience, general beliefs regarding the computer, perceived enjoyment and objective usability were important in perceiving the ease of use of a system. Perceived ease of use influences behaviour intention.

Table 4.5 PEOU in various contexts and the scopes of research

The next section will discuss the Unified Theory of Acceptance and Use of Technology (UTAUT).

4.4 The Unified Theory of Acceptance and Use of Technology (UTAUT)

The Unified Theory of Acceptance and Use of Technology (UTAUT) model was developed by Vankatch *et al.* (2003). It integrated the elements of eight prominent theories and models: including the Theory of Reasoned Action (TRA) (Fishbein and Ajzen, 1975), Technology Acceptance Model (TAM) (Davis, 1989; Davis *et al.*, 1989), Motivational Model (MM) (Davis *et al.,* 1992, as cited in Venkatesh *et al.*, 2003), Theory of Planned Behaviour (TPB)

(Ajzen, 1991), combined TAM-TPB (Taylor and Todd, 1995), Model of Personnel Computer (PC) Utilization (MPCU) (Thompson, Higgins, & Howell, 1991), Innovation Diffusion Theory (IDT) (Roger 1995) and Social Cognitive Theory (SCT) (Bandura, 1986).

The Unified Theory of Acceptance and Use of Technology (UTAUT) is modelled in Figure 4.4 below.

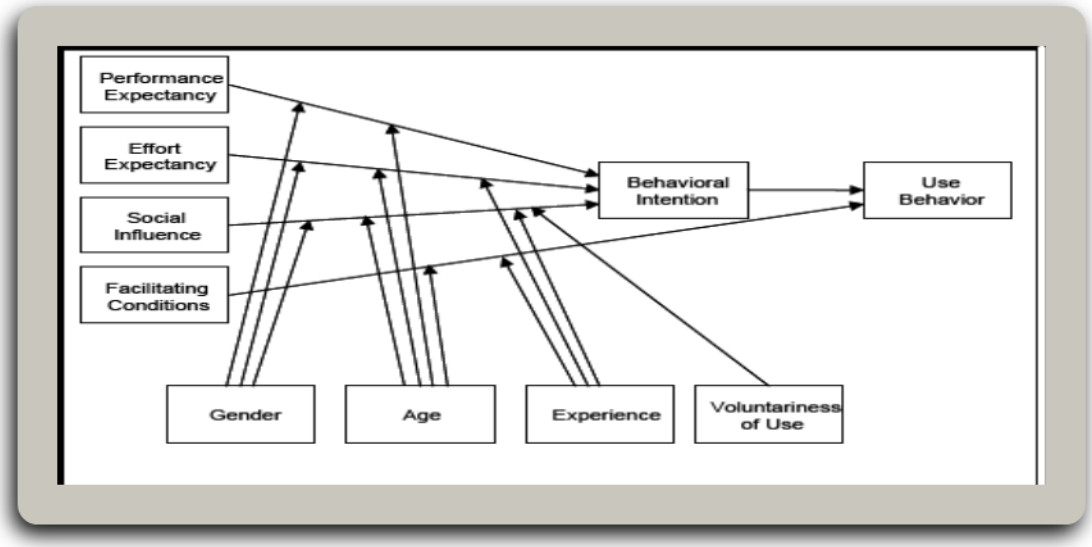

Fig. 4.4 The Unified Theory of Acceptance and Use of Technology (UTAUT)
Source: Venkatesh *et al.* (2003)

The Unified Theory of Acceptance and Use of Technology (UTAUT) contains four core determinants of intention and usage: performance expectancy, effort expectancy, social influence and facilitating conditions (Venkatesh *et al.,* 2003). The variables of gender, age, experience and voluntariness of use moderate the key relationships in the model. The UTAUT is able to account for 70% of the variance in usage intention – a considerable improvement over any of the original eight models and their extensions.

4.5 The summary of other theoretical frameworks applied to IT system adoption

Summarises other theoretical framework applied to IT system adoption are stated in Table 4.6 below.

Theory and Author	Model and Discussion	Core Constructs
Social Cognitive Theory (SCT) (Compeau and Higgins (1995b)	SCT is one of the most powerful theories of human behaviour (Bandura, 1986). Compeau and Higgins (1995b) applied and extended SCT to the level of computer utilization (Compeau *et al*., 1999). Although Compeau and Higgins (1995b) studied computer use, the nature of the model and the underlying theory allow it to be extended to the acceptance and use of information technology in general (Venkatesh *et al*., 2003)	Outcome Expectations-Performance Outcome Expectations-Personal Self-Efficacy Affect Anxiety
Decomposed Theory of Planned Behaviour (DTPB) (Taylor and Todd, 1995)	The decomposed theory of planned behaviour (DTPB) was derived from the theory of planned behaviour (TPB) and the Technology Acceptance Model (TAM) to a certain extent. Empirical evidence suggests that DTPB is comparable to TPB but holds the advantage of providing a deeper understanding of acceptance. Contrary to TPB but similar to TAM, DTPB "decomposes, attitude, subjective norms and perceived behavioural control into the underlying belief structure within technology adoption contexts" (Taylor and Todd, 1995b).	Attitude toward Behaviour Subjective Norm Perceived Behavioural Control
Innovation Diffusion Theory (IDT)|Diffusion of Innovation (DOI) (Rogers, 1995)	The innovation diffusion theory (IDT) has its roots in sociology and has been in use since the 1960s to study an array of innovations ranging from agricultural tools to organizational innovations. Moore and Benbasat (1991) adapted innovation characteristics presented in Rogers (1995) and refined a set of	Relative Advantage Ease of Use Image Visibility Compatibility Results Demonstrability Voluntariness of Use

	constructs that could be used to study individual technology acceptance. Agarwal and Prasad (1998) explored the role of these characteristics in predicting acceptance and found that there was modest support for the predictive validity of innovation characteristics. In terms of the overlapping constructs with other models, the relative advantage and ease of use of IDT are similar to perceived usefulness and perceived ease of use of TAM, and the compatibility of this model is similar to the one used in DTPB.	
Extended Technology Acceptance Model (TAM2) (Venkatesh and Davis, 2000)	"TAM2 extended TAM by including subjective norm as an additional predictor of intention in the case of mandatory settings" (Venkatesh and Davis, 2000).	Perceived Ease of Use Perceived Usefulness Subjective Norm
IS Success Model (DeLone and McLean, 1992 and 2003)	The IS success model as a taxonomy and framework for measuring the complex-dependent variables in IS research. DeLone and McLean (2003) discussed many of the significant IS research efforts that have applied, validated, challenged, and proposed enhancements to their original model, and they then proposed an updated DeLone and McLean (2003) IS Success Model	Information Quality System Quality Service Quality
Hofstede's Cultural Dimensions (Hofstede, 1980)	Hofstede's research on cultural dimensions provides a theoretical foundation for exploring the influence of cultural differences on the adoption and diffusion of IT based innovations. Hofstede (1980) proposed four widely cited dimensions of national culture. Latter long-term orientation (Hofstede and Bond, 1988) was added as a fifth dimension.	Power Distance Individualism / Collectivism Masculinity Uncertainty Avoidance Long-Term Orientation

Table 4.6 Summary of all the theoretical frameworks applied to IT system adoption
Source: adapted from Rana *et al.* (2012)

4.5.1 Theories of the 20 Most Cited Articles and Books on ICT System Implementation and Adoption

Korpelainen (2011) identified 20 previous publications and formed seven topics called "Theories of the 20 Most Cited Articles and Books on ICT System Implementation and Adoption", which are presented in Table 4.7 below. The table presents the authors of each most cited article or book and their citation numbers and relational percentages.

	Theory and Model	**Author(s), year**	**Citations**	**% of 2474**
1. Technology Acceptance Model (TAM)			869	35.1
	TAM	Davis, 1989	237	
	TRA and TAM (comparison)	Davis *et al.*, 1989	195	
	TAM, TPB, and the decomposed theory of planned behaviour (comparison)	Taylor and Todd, 1995	144	
	Extension called TAM2	Venkatesh and Davis, 2000	129	
	TAM and TPB (comparison)	Mathieson, 1991	90	
	TAM (replication)	Adams *et al.*, 1992	74	
2. Theory of reasoned actions (TRA)			502	20.3
	TRA and TAM (comparison)	Davis *et al.*, 1989	195	
	TRA	Fishbein and Ajzen, 1975	130	
	TRA and DOI (combination)	Karahanna *et al.*, 1999	100	
	TRA	Ajzen and Fishbein, 1980	77	
3. Diffusion of Innovations (DOI)			497	20.1
	DOI	Rogers, 1983 (different editions)	286	
	DOI	Moore and Benbasat, 1991	111	
	TRA and DOI (combination)	Karahanna *et al.*, 1999	100	
4. Theory of planned behaviour (TPB)			331	13.4
	TAM, TPB, and the decomposed theory of planned behaviour (comparison)	Taylor and Todd, 1995	144	
	TBP	Ajzen, 1991	97	
	TAM and TPB (comparison)	Mathieson, 1991	90	

5. Unified theory of acceptance and use of technology (UTAUT)		109	4.4
UTAUT combines eight models: TRA, TPB,TAM, MM,TAM-TPB, PC, IDT and SCT	Venkatesh *et al.,* 2003		
6 Model of the ICT implementation process	Cooper and Zmud, 1990	85	3.4
7. Information systems success model	Delone and McLean, 1992	81	3.3
	In total	**2474**	**100**

Table 4.7 Theories of ICT System Implementation and Adoption – A Critical Review
Source: Adapted Korpelainen (2011)

However, Venkatesh *et al.* (2003) developed the Unified Theory of Acceptance and Use of Technology (UTAUT) model to consolidate previous TAM related studies. UTAUT aims to explain user intentions to use an IS and subsequent usage behaviour. UTAUT suggests four core constructs to explain and predict user acceptance of technology adoption, which are: performance expectancy (equivalent to perceived usefulness), effort expectancy (equivalent to perceived ease of use), facilitating conditions and social influence. These constructs explain up to 70% of the variance in usage intention. According to Saliza and Kamil (2012), "a unified model is being accepted and integrated in many studies of various fields, their results revealed some inconsistencies when applied in different areas or situations; in other words, there is no universal UTAUT that can explain all situations of acceptance**".** It indicates that the UTAUT model of technology acceptance established in developed countries can only be transferred to developing countries with varying degrees of explanatory power. Despite being predictive, UTAUT is more integrative; however, the UTAUT model is weak in explanatory ability. The UTAUT model is considered a reflection of an individual's internal schema of beliefs, where the external part is being ignored (Brown *et al*., 2010). Significantly, the UTAUT model successfully integrated 32 variables with four moderators,

but the application is too general in terms of incorporating classes of technologies (Venkatesh and Bala, 2008).

In this study, however, the researcher did not choose UTAUT like other theories and models to underpin the study based on the following considerations:

i) Tax matters are very sensitivite and confidential and the complexity of data collection using UTAUT would be significant.

ii) Little work has been done on the impact of ICT in company income tax collection in Nigeria and is in its early stages. Federal Inland Revenue staff may be unwilling to respond to questionnaires and interviews if the questions were not straightforward and easily understood.

iii) The UTAUT model does not include cultural factors, which is important since Nigeria currently has more than 250 ethnic groups, and the dominant indigenous languages of Nigeria are Hausa, Yoruba and Igbo, with a mix of African languages and English. Efendioglu *et al.* (2005), cited in Chiemeke and Evwiekpaefe (2011), noted that, "even though a developing country (like Nigeria) government may make the necessary investments in infrastructure (as China has done to a significant degree), unless e-commerce industry participants understand and address cultural issues that are unique to that country and relate to off-site transactional process, the large scale diffusion and success of such endeavours will be greatly impeded".

The Technology Acceptance Model (TAM) and the Theory of Planned Behaviour (TPB) were two theories considered more suitable for this study, after considering the merits and demerits of all available models to explore the impact of ICT on collection of company income tax in Nigeria. The justification will be discussed in the next section.

4.6 Justification for choosing the Technology Acceptance Model (TAM) and the Theory of Planned Behaviour (TPB)

The Technology Acceptance Model (TAM) and the Theory of Planned Behaviour (TPB) are well established in the IT arena and appear to be widely accepted. TAM was chosen after considering the merits and demerits of other possible models and theories that might be suitable for this research.

i) Technology Acceptance Model (TAM)

The main aim of TAM is to find out what factors cause people to accept or reject an information technology. The Technology Acceptance Model, has two determinants, which are perceived ease of use and perceived usefulness. Since its introduction by Davis (1989) and Davis *et al.* (1989), the Technology Acceptance Model has been widely used for predicting the acceptance, adoption and use of information technologies.

"Understanding…technology acceptance has been a priority for a couple of decades and several models have been proposed and suggested, but TAM has been the most popular of these models" (Chuttur, 2009; Gefen and Straub, 2000; Taylor and Todd, 1995).

The Technology Acceptance Model is more appropriately applied in online contexts in light of several advantages it offers:

1) It is specific to information system usage in applying the concepts of ease of use and usefulness.

2) It is more parsimonious (economical). Additionally, it adopts the simplest assumptions when formulating or interpreting data.

3) It is more robust in various information system applications.

4) It is a robust but parsimonious theory and it is useful to explain a particular information system or technology.

5) TAM helps to understand and explain use behaviour in information system implementation.

6) It has been tested in many empirical studies, and the tools used with the model have proven to be of quality and to yield statistically reliable results.

7) TAM has been the only model that has widely captured the attention of the information systems community.

8) TAM is advanced theory derived from the theory of reasoned action (TRA) and the theory of planned behaviour (TPB); it is expected that it should explain or predict actual behaviour more accurately than TRA and TPB.

9) TAM could be useful in predicting end users' acceptance of an e-learning system in organisations (Davis *et al.*, 1989; Wu *et al*., 2011).

10) TAM offers a basic framework to explain the influence of external variables towards behavioural ideas (Davis, 1989), and TAM has been applied to different technologies such as word processors, email, the World Wide Web and hospital information systems.

11) TAM predicts IT acceptance under different conditions, such as time and culture, with different control factors. The UTAUT model is less parsimonious than TAM

12) TAM has been applied in different forms to explain technology adoption in a wide variety of contexts, ranging from individual to organisational technology acceptance.

According to Legrisa *et al*., (2003) "TAM has proven to be a useful theoretical model in helping to understand and explain use behaviour in IS implementation, and it has been tested in many empirical studies. The tools used with the model have proven to be of quality and to

yield statistically reliable results". TAM is superior to both the TRA and the TPB for explaining the variance in actual behaviour and in terms of model fit.

The use extension of the Technology Acceptance Model

However, the use extension of the Technology Acceptance Model is an ongoing process to assess the modern technologies context, including mobile service, cloud computing applications, ubiquitous computing applications which are also applicable to this study. TAM has arguably become the most influential theory in the IS field; with the various extended TAMs, the structure and main assumptions of these models remain the same as the original Technology Acceptance Model (TAM). The new variables that were added to the Technology Acceptance Model are shown in Table 4.8 below.

Author and Date	**The added construct**
Agarwal and Prasad (1998a, 1998b)	Compatibility
Dishaw and Strong (1999)	Task-technology fit
Agarwal and Karahanna (2000)	Cognitive absorption, playfulness and self-efficacy
Venkatesh and Davis (2000)	Subjective norms
Moon and Kin (2001)	World Wide Web
Chau and Hu (2002)	Peer influence
Chiu *et al.* (2005)	Personal innovativeness
Gefen *et al.* (2003) and Wu and Chen (2005)	Trust
Walczuch *et al.* (2007) and Lin *et al.* (2007)	Readiness
Lin *et al.* (2007)	E-stock users' behavioural intentions
Stern *et al.* (2008)	Online auctions
Chen *et al.* (2009)	Self-service
Chen and Chen (2009)	Automotive telematics users' usage intention
Lee (2009)	Perceived risk and perceived benefit
Muller-Seitz *et al.* (2009)	"Security" to understand customer acceptance of Radio Frequency Identification (RFID).

Table 4.8 New variables added (Extensions) based on the Technology Acceptance Model

Some scholars have stated that, “TAM posits that perceived usefulness is the strongest predictor of an individual’s intention to use an information technology” (Davis, 1989; Venkatesh and Davis, 2000; Venkatesh *et al*., 2003). TAM suggests, “Perceived ease of use has a significant influence on perceived usefulness, behaviour attitude, intention, and actual use” (Davis, 1989; Mathieson, 1991; Moore and Benbasat, 1991). Regarding perceived ease of use and perceived usefulness, Davis (1989) suggests, “From a causal perspective, the regression results suggest that ease of use may be an antecedent of usefulness, rather than a parallel, direct determinant of usage”. “The goal of TAM is to offer a parsimonious explanation of the determinants of adoption of IT “(Davis *et al.,* 1989). Venkatesh (2000) concludes that “TAM is the most widely applied research paradigm to understand user acceptance of technology and one of the most widely used in the information systems field”. According to other scholars, “TAM is a valid and robust model of technology acceptance (King and He, 2006) across levels of user expertise” (Gefen, 2002) and across various contexts including social networks (Hossain and de Silva, 2009), health IT applications, online trading (Lee, 2009) and software firewalls (Kumar *et al.,* 2008). TAM was developed as an attempt “to provide an explanation of the determinants of computer acceptance that is general, capable of explaining user behaviour across a broad range of end-user computing technologies and user populations, while at the same time being both parsimonious and theoretically justified” (Davis, 1989: 985). According to Azmi *et al.* (2010), “TAM is widely used and accepted to explain the relationship between perceptions and the use of technology and the two main constructs that influence behavioural intention are PU and PEU; PU is defined as the user’s perception of the degree to which using the system will improve his or her performance in the workplace and PEU is defined as the user’s perception of the amount of effort they need to use the system”. Past researchers have provided evidence of the significant effects of PEU and PU on BI (Venkatesh and Davis, 1996; Davis *et al.,* 1989;

Agarwal and Prasad, 1999). Similar to Davis *et al.* (1989), the attitude construct is dropped from this extended TAM model because of its weakness in mediating the impact of beliefs on behavioural intention (cited in Azmi *et al.,* 2010). Regarding predicting usage, TAM models might be useful within and across organisations for evaluating applications or technologies or to make comparisons between user groups or applications (Fu *et al.,* 2006). According to Moody *et al.* (2010), "there is a large gap between the technology acceptance model (TAM) and the rest: it is more than 3 times as influential as the next most cited theory, the information systems success model (ISM), was developed only 3 years after TAM, which makes it a clear choice as the leading paradigm in the information systems field". Benbasat and Barki, (2007) also confirmed that "TAM being the most influential information systems theory and the Technology Acceptance Model (TAM) is generally referred to as the most influential and commonly employed theory in information system which is also considered to be the only well-recognised theory in information systems field".

ii) The Theory of Planned Behaviour (TPB)

The Theory of Planned Behaviour (TPB) was proposed by Ajzen (1985) and is also widely accepted and adopted in management information systems (MIS) research and has the following advantages:

1) The limitation of TAM is that it does not reflect the variety of user task environment and constraints, but the Theory of Planned Behaviour incorporates subjective norm and perceived behaviour control to predict behaviour intention for using the system. The theory of planned behaviour has also been widely used to understand individual acceptance and use of different technologies.

2) Many studies have applied the Theory of Planned Behaviour to investigate behaviour prediction using attitudinal variables and found that TPB is one of the most influential models

in predicting behavioural intentions and behaviours. It has been comprehensively validated in the behavioural domain (Ajzen, 1991; Ajzen and Driver, 1991; Madden *et al.*, 1992; Parker *et al*., 1995 and Ajzen, 2010).

3) The Theory of Planned Behaviour provides more specific information that guides development (Mathieson, 1991).

4) The researcher considers the Theory of Planned Behaviour to be relevant to some aspects of this study as it involves human behaviour, technology, professional groups, organisations and management and collection of company income tax revenue. There is overwhelming support for the theory of planned behaviour model's ability to predict behaviour; researchers continue to call for additional variables to be added to the model in an attempt to further enhance the model's predictive capability (Conner and Armitage, 1998; Lutz, 2011). The Theory of Planned Behaviour explains and predicts all human behaviour and not just IT usage behaviour. In this study, Theory of Planned Behaviour may be used to fully explain Proposition 5. Paul and John (2003) suggested that TAM should combine a broader one which includes variables related to human and social factors which Theory of Planning Behavioural incorporates.

The use of ICT in company income tax collection in Nigeria is in its early stages, and the Technology Acceptance Model is more parsimonious for such a stage. Therefore, the Technology Acceptance Model and the Theory of Planned Behaviour models were considered suitable and convenient for this study. The Technology Acceptance Model is much simpler, easier to use and is powerful for explaining and predicting user acceptance of IT. The Technology Acceptance Model mainly offers a basic framework to explain the influence of external variables on behavioural ideas (Davis, 1989). Most of these studies (as stated in Table 4.2 above) found that the Technology Acceptance Model constructs

(perceived usefulness and perceived ease of use) were significant determinants of e-filing and payment system acceptance. Table 4.9 summarises the progress of technology adoption research using the Technology Acceptance Model (TAM) and the Theory of Planned Behaviour (TPB).

Major Areas of Progress	**Technology Acceptance Model (TAM)**		**Theory of Planned Behaviour (TPB)**	
	Key Examples	Cites	Key Examples	Cites
Influential models	i)Technology Acceptance Model: ii)Theory of Planned behaviour: iii)Innovation Diffusion Theory:	i)Davis (1989); Davis *et al.* (1989) ii)Ajzen (1985, 1991); Mathieson (1991); iii)Taylor and Todd (1995a, 1995b) Agarwal and Prasad (1998) Moore and Benbasat (1991)	i) For the purpose of the model: centric comparison	i)Theory of Planned Behaviour: Ajzen (1985, 1991)
Replication and generalizability	i)Population: ii) Countries: iii)Technologies: iv)Organizational systems—	i)Adams *et al.* (1992); Hendrickson *et al.* (1993); Mathieson (1991) ii)Japan—Straub *et al*. (1997); Saudi Arabia—Abdulgader and Kozar (1995) iii) Email Karahanna and Straub (1999); Calculator—Mathieson (1991); Spreadsheet—Mathieson (1991) and Venkatesh and Davis (1996); iv) Venkatesh *et al*. (2003)	i)Cross-cultural examinations ii)Goal-directed behaviours iii)Health behaviours iv) Weight loss	i)Godin *et al.* (1996); Hanson (1999) ii)Ajzen and Madden (1986) iii)Connor and Sparks (1996) iv)Schifter and Ajzen (1985)
Predictive	i)Actual use:	i) Straub *et al.*	i)Blood donation	i) Armitage

validity	ii) Choice:iii)Intention: iv)Self-reported use:	(1995); Venkatesh and Morris (2000);Venkatesh *et al.* (2003) ii) Szajna (1994) iii) Davis *et al.* (1989); Mathieson (1991) iv) Davis *et al.* (1989)	ii)Consumer behaviour iii)Household cycling of newspapers iv)Negotiation v)Rehabilitation	and Conner (2001b) ii) East (1996); Fortin (2000); Notani (1998) iii) Boldero (1995) iv) Shapiro and Watson (2000) v) Blanchard, Courneya, Rodgers, Daub, and Knapik (2002); Godin *et al.* (1996)
Competing models	i)Decomposed theory of planned behaviour: ii) Innovation diffusion theory: iii) Social cognitive theory: iv)Triandis' model:	i) Taylor and Todd (1995a, 1995b) ii) Moore and Benbasat (1991) iii) Compeau and Higgins (1995a, 1995b) iv) Thompson *et al.* (1991)	i)Health models ii)Triandis' model: iii)Volunteer motivation	i) Quine *et al.* (1998) ii) Triandis (1977) iii) Harrison (1995)
Theory base to study unique problems	i)Advertising: ii)Dairy farming: iii)Green electricity: iv)Information adoption: v)Marketing: vi)Trust:	i) Rogers and Chen (2002) ii) Flett *et al.* (2004) iii) Arkesteijn and Oerlemans (2005) iv) Sussman and Seigal (2003) v)Dabholkar and Bagozzi (2002) vi) Gefen *et al.* (2003a, 2003b)	i)Adherence to speed limits ii)Ethical decision making: iii) Smoking cessation behaviour: iv)Technology adoption:	i) Elliott *et al.* (2003) ii) Flannery and May (2000) iii) Bennett and Clatworthy (1999) iv) Taylor and Todd (1995a, 1995b); Venkatesh

				et al. (2000)
Temporal dynamics and other contingencies	i)Age: ii)Gender: iii)Higher-order interactions: iv)Temporal dynamics: v)Voluntariness:	i) Morris and Venkatesh (2000) ii) Gefen and Straub (1997); Venkatesh and Morris (2000) iii) Morris *et al.* (2005) iv) Karahanna *et al.* (1999); Taylor and Todd (1995a); Venkatesh and Davis (2000) v)Hartwick and Barki (1994); Venkatesh and Davis (2000)	i)Age: ii)Gender: iii)Temporal dynamics:	i) Armitage *et al.* (2002) ii) Armitage *et al.* (2002); Taylor, Bagozzi, and Gaither (2001) iii) Doll and Ajzen (1992); Conner *et al.* (2000); Sheeran and Abraham (2003)
Determinants and other interventions	i)Determinants of usefulness and ease of use ii)Training interventions	i) Karahanna and Straub (1999); Venkatesh (2000); Venkatesh and Davis (2000) ii) Olfman and Mandviwalla (1994); Venkatesh (1999); Venkatesh and Speier (1999)	i)Cognitive behavioural therapy interventions ii)Determinants of blood donation behaviour iii)Determinants of condom use iv)Determinants of exercise intention v) Determinants of vegetable consumption	i) Fishbein and Ajzen (2005) ii) Armitage and Conner (2001b) iii) Albarracin *et al.* (2001) iv) Blanchard *et al.* (2002) v) Brug *et al.* (1995)
Construct refinement and alternative mechanisms	i)Expectation-disconfirmation: ii)Habit iii)Post-adoption:	i) Bhattacharjee (2001); Bhattacharjee and Premkumar (2004) ii) : Morris *et al.* (2005) iii) Jasperson *et al.* (2005)	i)Behavioural expectation: ii)Dimensionality of PBC: iii)Habit: iv)Refinement of PBC: v) Role of self-identity:	i) Warshaw and Davis (1985) ii) Chan and Fishbein (1993) iii) Ouellette and Wood (1998) iv) Terry (1991, 1993) v) Sparks (2000)
Synthesis	Gefen and Straub (2000); Lee *et al.*		Albarracin *et al.* (2001);	

	(2003); Legris *et al.* (2003); Venkatesh *et al.* (2003)	Armitage and Conner (2001a); Fishbein and Ajzen (2005)

Table 4.9 Summary of the progress of technology adoption research using the Technology Acceptance Model (TAM) and the Theory of Planned Behaviour (TPB)
Source: Adapted from Davis and Morris (2007)

Chu and Wu (2004) used the TPB model because they believed that it could provide more effective guidance to policy-makers in promoting electronic filing. Their study suggested that perceived behavioural control was the most significant variable in determining the acceptance of e-filing, followed by attitude and subjective norms.

Hung *et al.* (2006) used the TPB model to identify factors that influenced the acceptance of e-filing. The findings of the study revealed that "perceived usefulness, ease of use, perceived risk, trust, compatibility, external influences, interpersonal influence, self-efficacy, and facilitating conditions were significant [determinants] of user acceptance of online filing".

Fu *et al.* (2006) utilised TAM to examine whether it is applicable to e-filing and manual submission, and they discovered that perceived usefulness was the main determinant of taxpayers' behavioural intentions for both manual and electronic filings.

Ibrahim (2012) investigated factors underpinning usage behaviour of an electronic filing system by studying Malaysian personal taxpayers. The study used mail questionnaires to collect data. "The main advantage of a mail survey research is that it reduces time and costs in comparison to face-to-face interview", (Sandford *et al*., 1989; and Babbie, 1997). "The setback of this approach is the low response rate" (Fowler, 1993) and "wrong or different interpretation by respondents" (Sandford, 1995; Axinn and Pearce, 2006). To overcome the weaknesses, several steps suggested by Dillman (2007) and other researchers, especially in the taxation area (see for example Pope, 1995; Sandford, 1995; McKerchar, 2008), were

taken into consideration during questionnaire development and survey execution. Using a logistic regression analysis, the findings revealed that perceived usefulness and anxiety are statistically significant as they outperformed other factors in explaining the actual usage behaviour of the e-filing system among Malaysian personal taxpayers. The likelihood of a taxpayer using the e-filing system is positively related to the perceived usefulness of the system, while it is negatively related to his/her anxiety towards the system. The results provided some insights into taxpayers' reasons for using the e-payment system. The findings also revealed that the government needs to formulate appropriate strategies to increase the take-up rates of the e-filing system among personal taxpayers in Malaysia. The study enhances knowledge on e-filing usage behaviour and provides some insights for tax authorities to better understand taxpayers' behaviour in developing specific strategies to increase the adoption of e-filing.

Tallaha *et al.* (2014) examine factors influencing e-filing usage among Malaysian taxpayers to determine if tax knowledge matters. The objective of the study was to investigate factors that might influence taxpayers' levels of intention to use e-filing based upon the theoretical framework of the Technology Acceptance Model (TAM), the Theory of Planned Behaviour (TPB) and the concept of tax knowledge. The survey method was used (its implementation (2006) is the first assessment year and 2009 is the latest assessment year in this study) among individual taxpayers. The findings revealed that respondents have high levels of intention to use e-filing (4.34 out of 5). The results from this study suggested that e-filing is a computerized system, just like any other system, where taxpayers' intentions to use it are also influenced by constructs within the technology acceptance model and the theory of planned behaviour. Empirical findings show that perceived usefulness, perceived ease of use and perceived subjective norms are positively associated, but the perception on behavioural

control and tax knowledge are not significantly associated with taxpayers' intentions to use e-filing. Future studies may want to examine other factors that could influence e-filing, or they could use utilize other methodologies.

Mathieson's (1991) study compared the Technology Acceptance Model (TAM) with the Theory of Planned Behaviour (TPB) and identified that: i) the Technology Acceptance Model (TAM) was specifically designed by Davis (1986) to predict use of an IS; ii) the Theory of Planned Behaviour (TPB) was discussed by Ajzen (1985, 1989); iii) the Theory of planned behaviour (TPB) was designed to predict behaviour across many settings and can be applied to IS use; and iv) These models were compared using three criteria: (1) How well do they predict the user's intention to use an IS? (2) How valuable is the information provided by the model? (3) How difficult are the models to apply?

There are three differences between the Technology Acceptance Model (TAM) and the Theory of Planned Behaviour (TPB), which are as follows:

1. Generality

   The Technology Acceptance Model assumes that beliefs about usefulness and ease of use are always the primary determinants of use decisions. Its constructs are measured in the same way in every situation.

   The advantage of the Theory of Planned Behaviour's approach is that all respondents are making the same comparison. It uses beliefs that are specific to each situation. The disadvantage of the approach is that this reference point may not apply to all individuals. TPB's items require an explicit behavioural alternative if they are to be as specific as possible. This theory is more difficult to apply across diverse user contexts than the Technology Acceptance Model.

2. Social variables

The Technology Acceptance Model does not explicitly include any social variables. Thus motivation is more likely to be captured by the Theory of Planned Behaviour than by the Technology Acceptance Model. The Theory of Planned Behaviour incorporates social norms and perceived behaviour control.

3. The models treat behavioural control differently.

Referring to the skills, opportunities, and resources needed to use the system, the only variable included in TAM is ease of use (internal control factors), while the external control factors such as time, opportunities and cooperation of others were included in TPB.

Both models provided good predictions of individuals' intentions to use an IS. However, TAM slightly outperformed TPB; therefore, TAM will be useful to explain propositions 1, 2, 3, 4 and 5.

4.7 Chapter summary

This chapter covers well-established research models that have contributed to the development of the conceptual framework of technology adoption such as the Theory of Reasoned Action (TRA) (Fishbein, 1967, Fishbein and Ajzen, 1980), Theory of Planned Behaviour (TPB) (Ajzen, 1991), Technology Adoption Model (TAM) (Davis, 1989, Davis et al., 1989) and the Unified Theory of Acceptance and Use of Technology (UTAUT) model. The chapter also summarises other theoretical frameworks applied to IT system adoption; justification for choosing the Technology Acceptance Model (TAM) and the Theory of

Planned Behaviour (TPB); the comparison of key theories and theories of the 20 most cited articles and books on ICT system implementation and adoption. It ended with the justification for the choice of theoretical underpinnings (TAM and TPB); summarising the progress of technology adoption research using TAM and TPB; explaining three differences between TAM and TPB; and a summary of the chapter. The rest of this study covers the following: Chapter 5: Methodology, Chapter 6: Data Analysis and Chapter 7: Conclusions, Recommendations and Future Studies.

Chapter Five
Methodology

5.0 Introduction

The previous chapter considered theories and models in order to identify suitable theories to underpin this study. This chapter looks at the research methods that can enhance the investigation of research issues identified in the literature review. The research method is "any organized enquiry that aims at providing information for solving identified problems" (Asika, 2000; cited in Fakile, 2011). Sarantakos (2007:32) defines methodology as "the theoretical principles and framework that underpin how research is done from within the context of a particular paradigm". According to Jankowicz (2000), "[The] research method is defined as concentrating on a systematic and orderly approach taken towards the collection and analysis of data so that information can be obtained from those data". Reid (2006:97) defines methodology as "a step-by-step plan of what data gathering instruments the researcher will use, how the population will be selected, how data management strategies are likely to be utilised as well as ethical strategies". Another development stated that "a research methodology is an overall approach to addressing a research problem from the theoretical underpinning of the research to the collection, analysis and interpretation of the data" (Hussey and Hussey, 1997; cited in Karunasena, 2012).

The purposes of this chapter are outlined below:

5.1 Explains the research philosophy in relation to other philosophies and the basis that underpinned the methodology chosen for this study.

5.2 Explains research designs employed.

5.3 Explains the data collection procedure undertaken.

5.4 Introduces research instruments (such as the questionnaire and interviews).

5.5 Explains the analytical procedures utilised.

5.6 The chapter ends with the potential limitations of the research methodology employed.

The next section of this chapter discusses the philosophical basis of the methodology, "which depends on the way the researcher thinks about the development of knowledge" (Saunders *et al.,* 2000:84).

5.1 Philosophical Basis of the Methodology

"A philosophical stance or worldview underlies and informs a style of research" (Sapsford, 2006:175). A research philosophy is an acknowledgement of the way in which data phenomena should be gathered, analysed and used. Research philosophy usually refers to the approach or paradigm that underpins the research such as positivism, post-positivism or critical postmodern.

According to Galliers (1991), "two major research philosophies have been identified: positivism (sometimes called the scientific approach) and interpretivism (also known as anti-positivism)". Some scholars such as Saunders *et al.* (2000) and Easterby-Smith *et al.* (1991) have highlighted the main elements of this choice involving research philosophy. Easterby-Smith *et al.* (1991:27) offer these key features of the two philosophy paradigm alternatives:

	Positivist paradigm	**Phenomenological paradigm**
Basic beliefs	i) The world is external and objective ii) Observer is independent iii) Science is value-free	i) The world is socially constructed and subjective ii) Observer is part of what is observed iii) Science is driven by human interests

The researcher should…	i) Focus on facts ii) Look for causality and fundamental laws iii) Reduce phenomenon to simplest elements iv) Formulate hypotheses and then test them	i) Focus on meanings ii) Try to understand what is happening iii) Look at the totality of each situation iv) Develop ideas through induction from data
Preferred methods include…	i) Operationalizing concepts so that they can be measured ii) Taking large samples	i) Using multiple methods to establish different views of phenomena ii) Small samples investigated in depth or over time

Table 5.1 Research paradigms
Source: Easterby-Smith *et al.,* (1991:27)

"The philosophical reasoning for social research centres on the perception of the social world from scholars' point of view and their conceptualization of what constitutes social reality" (Bryman, 2008). "Philosophers over the last two millennia have debated how best the world can be perceived and understood" (Trochim, 2006). Other schools of thought are positivism, post-positivism (realism), interpretivism, relativism, subjectivism and hermeneutics, structuralism and post-structuralism, constructivism and feminism (Trochim, 2006; Bryman, 2008; Saunders *et al.,* 2009). Nevertheless, only the schools of thought relevant to the current study were discussed.

Positivism

"Positivism, otherwise referred to as the quantitative, scientific or objective approach, believes that reality is stable and can be observed and described from an objective viewpoint" (Levin, 1988); this means that phenomena should be isolated and that observation should be repeatable. It mostly involves manipulation of reality with variations in only a single independent variable to identify regularities in, and to form relationships between, some of the constituent elements of the social world. "Positivism has a long and rich historical

tradition. It is so embedded in our society that knowledge claims not grounded in positivist thought are simply dismissed as ascientific and therefore invalid" (Hirscheim, 1985:33). Alavi and Carlson (1992), who reviewed IT research articles, revealed that all the empirical studies were positivist in approach, indirectly supporting this view. Positivism also has an association with the physical and natural sciences. According to Williams (1998), "a positivist outlook understands the world as one objective reality and would tend to favour a causal research purpose and structure research design accordingly".

Williams (1998) summarized the key features of positivism as follows: it works from scientific principles, analyses phenomena in terms of variables, starts with theory and tests/refines theory with data, collects data by dispassionate research, uses a highly structured research process, uses theories to predict future relationships and behaviours and prefers quantitative data. Finally, the validity and reliability of data are important for formulating generalizable conclusions. Positivism is critiqued because studying social life is considered, in many ways, to be different from studying chemicals in a laboratory. Social research is imbued with values, experiences and politics that cannot be separated from the data that the research produces. In addition, there are many questions raised about the nature of social reality – is there a "real" reality (facts) that can be objectively known?

Interpretativists

Interpretativists/phenomenologists, who follow a qualitative or social constructionist approach, believe that there are many equally valid interpretations of reality. These interpretations are dependent on when they are made and the context in which they are made, i.e. they are time- and context-dependent; the human participant and oberservationism and the context and time these issues occur are fundamental to their studies. According to Williams

(1998), "interpretivism does not see the world in an objective light; instead individuals construct the world, each perceiving their own reality".

Williams (1998) also summarized the key features of interpretivism as the following: knowledge is constructed by human beings who analyse phenomena in terms of issues; researchers cannot be wholly dispassionate – they are involved and will influence situations to a certain extent. In addition, flexibility may be required to allow the emphasis of the research to change. Finally, qualitative data are preferred and generating rich data is as important as the ability to generalize. Interpretivists contend that only through the subjective interpretation of and intervention in reality can that reality be fully understood. The study of phenomena in their natural environment is key to the interpretivist philosophy, together with the acknowledgement that scientists cannot avoid affecting those phenomena they study. Interpretivists admit that there may be many interpretations of reality, but maintain that these interpretations are in themselves a part of the scientific knowledge they are pursuing. Interpretivism has a tradition that is no less eminent than that of positivism.

The interpretivist approach looks for culturally derived and historically situated interpretations of the social world. Interpretivism is often linked to the thought of Max Weber (1864-1920) who suggested that, in the human sciences, one is concerned with Verstehen (understanding) in comparison to Erklaren (explaining) and the process, rather than the facts. Interpretivism has many variants, such as hermeneutics, phenomenology and symbolic interactionism.

This study has provided a descriptive analysis of the philosophies of positivism and interpretivist thinking in relation to research methodology and has identified the main elements of both approaches. According to Merriam (1998:1), choosing a research design

calls for understanding the philosophical foundations underlying the type of research and individual personality, attributes and skills, and becoming informed as to the design choices available in the personal paradigm. A researcher's philosophical stance plays a vital role in the research approach and strategy used in carrying out the study.

Table 5.2 below depicts the philosophical, theoretical and methodological perspective of this study.

The philosophical, theoretical and methodological perspective of this study	
Ontological Perspective	Multiple Realities
Epistemological Perspective (what is known to be true)	Objectivism and Subjectivism
Research Paradigm	Pragmatism
Methodological perspective	Mixed Research Methods
Theoretical Perspective	Meta Theory
Mixed Method Research Design	Connect-data
Research Approach	Deductive and Inductive Approach
Research Strategy	Survey
Research Design	Experimental Design
Sampling Method	Probability Sampling
Specific Sampling Typologies	Simple Random Sampling
Method of Data Analysis	Descriptive/Inferential/Content Analysis
Test Statistics	Parametric Tests

Table 5.2 Methodological perspective of the research
Source: Adapted from Crotty (1998) and Hay (2000)

This study proposes to use a mixed methods approach (both quantitative and qualitative) in order to achieve its main objectives. A mixed methods approach is used to gather data that could not be obtained by adopting a single method, and it helps to minimise the weakness of a single method and ensure the validity of gathered data. In addition, it is used to ensure that all angles of its target population are covered in terms of understanding the deeper structure of the research problems. The advantages of mixed methods are shown in Table 5.3 (p.173) below.

Criteria	Interviews		Questionnaires		Mixed Method
	Advantages	Disadvantages	Advantages	Disadvantages	Advantages
Access to information	√			×	√
Anonymity		×	√		√
Application Skill		×	√		√
Bias		×	√		√
Confidentiality		×	√		√
Cost		×	√		√
Data Analysis		×	√		√
Flexibility	√			×	√
Reliability	√			×	√
Response Rate	√			×	√
Sample size and Sampling		×	√		√
Time		×	√		√
Validity	√			×	√

Key: √ Advantage; × Disadvantage

Table 5:3 Advantages of mixed methods

"A mixed methods research methodology involves the adoption of multiple research methods with the use of both quantitative and qualitative data to adequately address the research problem" (Creswell, 2009). "With the use of multiple research methods, biases inherent in quantitative and qualitative methods can be tempered, the power of numbers and generalizable outcomes can be balanced with the rich context of the live experiences of people" (Sosulski and Lawrence, 2008 cited in Karunasena, 2012), and a better understanding of the research problem can be obtained (Johnson *et al.,* 2007; cited in Karunasena, 2012).

Different scholars support the idea of mixed approach methods by arguing that it is advantageous over using a single method. A mixed methods approach is one in which the researcher tends to justify knowledge claims on pragmatic grounds (e.g. consequence-

oriented, problem-centred, and pluralistic). It applies strategies of enquiry that involve collecting data either simultaneously or sequentially to best understand the research problem. According to Creswell (2003), data collection involves gathering both numeric information (on instruments) as well as text information (through semi-structured interviews) so that the final database represents both quantitative and qualitative information".

However, Omoteso (2006:110) suggests, "combining phenomenological indices such as observer independence, asking how, why, and how much relevance of human interest and actions, and positivistic indices such as large sample size, theoretical abstraction, general understanding of physical and technology environment". "The use of mixed methods (or triangulation) reflects an attempt to secure in-depth understanding of the detailed determinants of online services and their impact on taxpayers' satisfactions" (Denzin, 2006).

Some studies, such as Bryman (2006) and Denscombe (2008), suggested that "social researchers use mixed methods strategies for one or more of the following purposes: improved accuracy, providing a more complete picture, compensating for strengths and weaknesses and more especially in developing robust analysis". Other scholars such as Creswell (2003); Green and Preston (2005); Sammons *et al*. (2005); Mofleh *et al.* (2008a) and Shareef *et al.* (2009) argued that a multi-method approach can increase both the reliability and validity of evaluated data, and [it is] the most appropriate technique when investigating a complex and emerging phenomenon such as e-government". Bogdan and Biklen (1982: 145) describe this process as "working with data, organising it, breaking it into manageable units, synthesizing it, searching for patterns, discovering what is important and what is to be learned, and deciding what you will tell others". It enables the researcher to evaluate the worth of study findings by going through the intellectual exercise of description, analysis and synthesis. To capture the experiences and interpretations of relevant issues

relating to the use of ICT in company income tax collection, a semi-structured interview method was used (Holstein and Gubrium, 1995; Strauss and Corbin, 1998; Keats, 2000).

A questionnaire is a quantitative method, while an interview is a qualitative method, which will be used in the data collection process in this study.

Cresswell (2007) asserted the importance of illustrating the research approach as an effective strategy to increase the validity of social research.

According to Fischler (2013), "a mixed methods research design is a procedure for collecting, analysing, and mixing both quantitative and qualitative research and methods in a single study to understand a research problem", as shown in Figure 5.2 below.

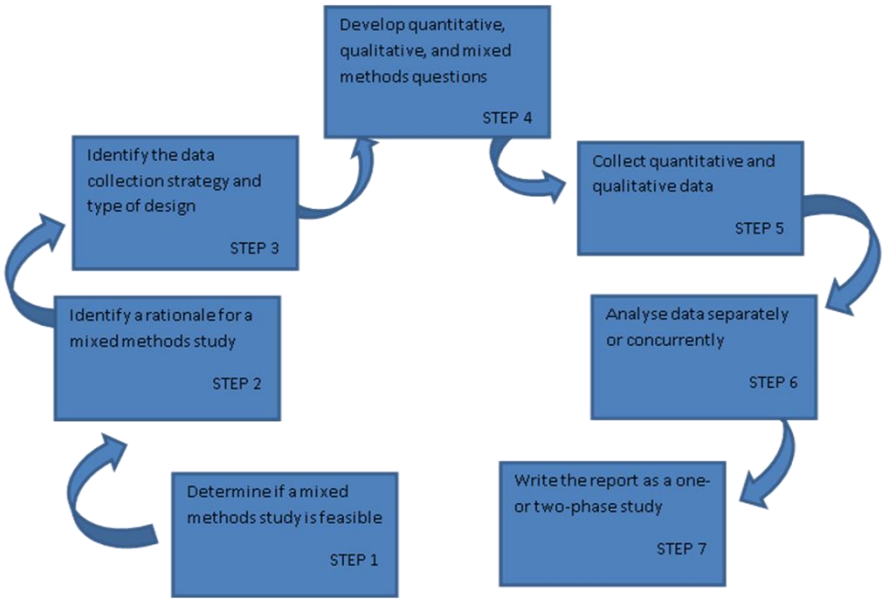

Fig. 5.2 Steps for Conducting a Mixed Methods Study
Source: Fischer (2013) Mixed Methods

The remainder of this chapter will provide details of the research questions for this study, and it will follow the research design adopted to address the research issues identified above,

together with the means of collecting data for analysis and the data analysis approach to be adopted. In addition, the chapter ends with the issue of potential limitations and problems with the chosen research strategy and its implementation.

5.1.1 Research Propositions

Based on the aforementioned objectives outlined in chapter one of this study and scrutinised through various identified gaps in the literature review in chapter three, five research propositions are considered central to the main contribution of this study:

1. The introduction of ICT has enhanced CIT collection and improved revenue generation.
2. The use of ICT has impacts in company income tax compliance and the cost incurred by enforcing compliance.
3. The use of ICT has increased tax information disseminations.
4. The use of ICT has improved the transparency of CIT collection.
5. ICT can potentially contribute to the effectiveness and efficiency of company income tax collection.

Proctor (1998) considers that consistency between the aims of a research study, the research questions, the chosen methods and the personal philosophy of the researcher are the essential underpinning rationales for any research project.

5.1.2 Research Instruments

The primary data of the current study was collected by means of a questionnaire and semi-structured interviews. The choice of questionnaire is prompted by its reliability and the

validity of the answers, and the semi-structured interview also has its own advantages such as access to information, flexibility, reliability, response rate and validity, as shown in Table 5.3 above.

Many scholars such as Saunders *et al.* (2000) included in their multi-layer approach to research a variety of data collection methods: secondary data (documentation), observation, interviews and questionnaires. This study made use of secondary data, which is published in FIRS annual reports, websites, budget speeches, and press releases of the Federal Ministry of Finance and Central Bank of Nigeria annual reports.

A research design (discussed in the next section) is a general plan of how the researcher will go about answering the research questions (Saunders, 2000).

5.1.3 Research Design

"A research design is a procedure or process that guides the researcher in providing answers to research questions and meeting desired objectives" (Fakile, 2011). Trochim (2006) stated that "a research design is comparable to the glue that holds a research project together (a structure of the research)", as described in Table 5.4 below.

Objectives	**Research Questions**	**Proposition**	**Literature Review**	**Questionnaire Questions**	**Interview**
To evaluate the state of CIT collection with the existing use of ICT	Has the existing level of ICT use in CIT improved revenue generation?	Introduction of ICT in CIT collection has improved revenue generation.	Chatama (2013) Rotimi *et al.* (2013) Geetanjali (2011) Huang *et al.* (2011) Chen *et al.* (2011)	A1 – A9 B1-B5	C9
To assess the impact of ICT	What is the impact of ICT	The use of ICT has impacts on	Mohdali (2012)	A1 – A9	

in compliance and compliance cost of CIT collection	in CIT compliance and compliance cost?	tax compliance and compliance cost.	Muwonge (2011) Hai and See (2011) Ibrahim and Pope (2011) Asante and Baba (2011)	B6-B12	C1-C2, C4, C9
To check the current level of CIT information dissemination	Has the use of ICT in CIT collection improved tax information disseminations?	The use of ICT has increased tax information disseminations.	Kamil (2012) Chiemeke and Evwiekpaefe (2011), Martin *et al.* (2010), Schaupp and Carter (2009) Bhatnagar (2003a; 2003b) and Im (2001)	A1 – A9 B13-B16	C3,C4-C5, C7-C8
To explore the transparency of CIT collection with use of ICT	Has CIT collection been transparent with the use of ICT?	The use of ICT has improved transparency of CIT collection	Chatama (2013) Kumar *et al.* (2007) Alm *et al.* (2006) and Vasconcellos and Rua (2005)	A1 – A9 B17-B20	C6
To evaluate the ICT potential contribution towards the effectiveness and efficiency in company income tax collection	Can ICT make a potential contribution towards effectiveness and efficiency in company income tax collection?	ICT has the potential to contribute to the effectiveness and efficiency in company income tax collection	Lee *et al.* (2011) and Isaac and Lilian(2010)	A1 – A9 B21-B28	C10

Table 5.4 Research Structure

It is important to indicate how this study proceeds, hence this section discussed research design.

5.2 Questionnaires and Semi-Structured Interview Questions

5.2.1 Questionnaires

For the purposes of the current study, 360 copies of the questionnaire were distributed to Federal Inland Revenue Service (FIRS) staff participants. The survey instrument is a 5-point Likert scale questionnaire survey, divided into two sections:

Section A: This section of the questionnaire was constructed to solicit necessary details from the staff of FIRS for analysing their profiles. The questionnaire contained nine questions aimed at gathering background information on the respondents: demographics and awareness of ICT (e-tax), which included age range, gender, current position, working experience, qualification and introduction of ICT in company income tax (CIT) collection.

Section B: This is the main section containing questions and statements designed to collect data on application of the e-tax payment system; questions relating to introduction of ICT in CIT collection and revenue generation; the impacts of ICT on company income tax compliance and cost incurred in enforcing compliance; the level of company income tax information disseminations with existing use of ICT; the transparency of company income tax collection and further ways in which ICT can potentially contribution to effectiveness and efficiency in company income tax collection; and challenges faced in the collection of company income tax, questions on factors that the respondents believe are needed for efficient collecting of company income tax and statutory requirements (28 questions). The questionnaire and semi-structured interview questions, in addition to secondary data towards five propositions for this study, are shown in Table 5.5 below.

Propositions	Questions to be answered	Questions to be answered
	Questionnaire	Interview
Proposition I **Introduction of ICT in CIT collection has improved revenue generation**. These questions are aimed at assessing the improvement in company income tax collection with effectiveness of ICT use.	A1- A9, B1- B5	C9
Proposition II **The use of ICT has impacts on tax compliance and compliance cost.** These questions aim at assessing the potential of IT in tax compliance.	A1- A9 B6- B12	C1-C2 C4
Proposition III **The use of ICT has increased company income tax collection information dissemination.**	A1- A9 B13- B16	C3,C5, C6- C8
Proposition IV **The use of ICT has improved transparency.** These questions aim at the use of ICT to assess transparency in company income tax collection.	B17- B20	C3, C5 C6-C8
Proposition V **ICT has the potential to contribute to the effectiveness and efficiency in company income tax collection.** These questions assess the ways in which ICT can further enhance effectiveness and efficiency in company income tax collection such as e-filing	B21-B28	C10

Table 5:5: Questionnaire and Interview Questions Designed around Five Propositions

The initial literature of Parasuraman (2005) and Hussein *et al.* (2010) on the e-tax system provided the basis for the development of the questionnaire of this study, in order to meet its objectives. According to Ifidon and Ifidon (2007), cited in Krubu and Osawaru (2011), the advantages of the questionnaire as a research instrument include the following: ability to gather information for large investigations; usefulness for obtaining opinion of judgments and

for surveying attitudes; practicability of using it to gather information by correspondence; applicability to a large assemblage of people; provision of more efficient data collection because many subjects can be tested at the same time; completion of the questionnaire at the respondents' convenience; reactivity and social desirability may be reduced because completing a questionnaire anonymously can be much less threatening; low cost of data gathering and analysis of data; elimination of research bias; and ability to be mailed.

The questions in the questionnaire used for this study were written in a short, clear and concise way to avoid ambiguity, vagueness, leading, threatening and double-barrelled questions. The recommended guidelines by Joseph *et al.* (2007) regarding designing of questionnaires were considered in this study to eliminate any bias from the researcher side and to increase the rate of response. These questionnaire guidelines are as such: familiar to the respondents, and the use of jargon or technical terms has been avoided, unless necessary; the questions have been made as short as possible and to the point; in order to avoid ambiguity and vagueness; the questions have been written in a clear and concise way; in order to avoid biased responses; the questions were not asked in a leading form which encourages respondents to give a particular response that the researcher seeks; double-barrelled questions and answers have been eliminated, to avoid misinterpretation and to avoid position bias; the questions were set in logical order (from general to specific). The form of questions and the order in which they appear in a questionnaire influence the response rate. The study used thirty-four closed-ended questions and three open-ended questions. Table 5.6 below depicts the organisation of the questionnaire used for this study.

Section	**Title**	**Number of Questions**
A	About me and my awareness of e-tax	9 closed-ended
B1-B5	Introduction of ICT in CIT collection has	5 closed-

	improved revenue generation	ended
B6-B12	The impact of ICT on tax compliance and compliance cost	7 closed-ended
B13-B16	The use of ICT and disseminations of company income tax information	4 closed-ended
B17- B20	ICT and transparency of CIT collections	4 closed-ended
B21-B28	Ways in which ICT can further enhance effectiveness and efficiency in company income tax collections	6 closed-ended 2 open-ended

Table 5.6 Structure of the Questionnaire
Source: Adapted from Omoteso (2006)

Questionnaires are usually viewed as a more objective research tool that can produce generalizable results because of large sample sizes; results can be threatened by many factors such as faulty questionnaire design, sampling and non-response errors, biased questionnaire design and wording, respondent unreliability, ignorance, misunderstanding, reticence or bias, errors in coding, processing and statistical analysis and faulty interpretation of results (Oppenheim, 1992). The disadvantages of the questionnaire method will be offset by the semi-structured interview method of collecting data (to be discussed in section 5.2.5). A formal letter of introduction was attached to the questionnaires, and it contained instructions for the participants with the inclusion of other information such as the title of the research, the aims of the research, expectations of the participants, benefits of participating, any risks of participating, participants' rights, and the name and contact information of the researcher. The letter of invitation was important because it justified the research to respondents and often determined whether he or she cooperated. The copy of the letter is attached in Appendix A.

According to Zikmund (2003), determining the format of a questionnaire and the list of questions to be inserted is an important phase in a survey research design. In this study, the

questionnaire was a mixture of both open-ended and closed-ended questions. For this type of research, the benefits of closed-ended questions are to get a higher rate of response, so most of the questions appearing in the questionnaire have been formulated to be closed-ended. However, in closed-ended questions, the researcher will provide the respondent with predetermined answers to choose from; its design is more expensive and time consuming. The questionnaire used for this study was relevant and accurate. A questionnaire is relevant only when it collects the data that is needed and considered accurate when it has an acceptable level of reliability and validity (as will be discussed later in this chapter).

Scales and Measurement

The research instruments used for this study were adopted from various literatures and modified for the purpose of understanding the impact of ICT on company income tax collection in Nigeria. In Section A, the demographic variables are measured by using a nominal scale, while the interval scale of measurement was applied in Section B. The respondents were asked to read and indicate their agreement or disagreement with each of the statements in Section B, using the 5-point scale. The attitude ratings are as follows:

Strongly Agree	5
Agree	4
Neither agree nor disagree	3
Disagree	2
Strongly Disagree	1

A validation involves three steps: theoretical validation, empirical validation and constructs validity (Carmines and Zeller, 1979). Cronbach's alpha was applied to test the consistency of the measurement constructs of this study. According to Cuieford (1965), "a Cronbach's alpha of 0.6 or higher is commonly considered as a benchmark for reliability testing". Details of the measures for each construct are given in section 5.6.1.

An online survey could have been used, but the facilities were not available to complete it within a limited period of time.

The pilot study will be discussed in the next section.

5.2.2 Pilot Study

The constructed questionnaire was pre-tested with the help of captive audiences such as academic experts, tax practitioners, fellow research scholars and actual e-tax payment system users in the FIRS office. They were expected to identify questions most valid for this study, to evaluate the questionnaire and to ascertain if the questionnaire constructed was reliable and understood by the participants. A group of thirty-five participants was included in the pre-testing team, and each participant was given a draft questionnaire typed with triple line spacing, which allowed them to write comments on each questionnaire item. The participants were asked to cross-check each question wording, question order, redundant questions, missing questions, inappropriate, inadequate and any confusing response categories in the questionnaire. Pilot testing of the questionnaire was done over the course of two days, and twenty-five responses were received from the participants within the stipulated period. The time required for questionnaire completion was also monitored. Participants were asked to restate questions that were difficult to understand or answer, and positive feedback was

received from the pre-testing, along with suggestions for minor changes. This resulted in the revision of a few questionnaire items, and the revised questionnaire was presented again for further feedback. The final breakdown of the questionnaire was thus produced as shown in Table 5.7 below.

Section	**Title**	**Number of Questions**		
		Scaled Items	Open-Ended Questions	Total
A	Background information of the respondents and awareness of ICT (E-tax)	8	1	9
B(i)	Company income tax collection and ICT	5	0	5
B(ii)	The impact of ICT on tax compliance and compliance cost	7	0	7
B(iii)	The use of ICT and disseminations of company income tax information	4	0	4
B(iv)	The ICT and transparency of CIT collections	4	0	0
B(v)	Ways in which ICT can further enhance effectiveness and efficiency in company income tax	6	2	8
TOTAL		34	3	37

Table 5.7 Questionnaire Structure

The pilot test was carried out to test the validity and reliability of the instrument and its ability to collect useful and high quality research data in order to achieve the research objectives as set out. According to de Vaus (1996) and Zikmund (2003), "it involves testing the questionnaire on a set of people that are not too divergent from the target respondents in terms of, for example, age, gender, educational and ethnic characteristics". A covering letter was accompanied with the pilot questionnaire used, and it was addressed to individual respondents, stating the research objectives and a guideline of how to complete the

questionnaire. Participants were assured that the data they would supply in the questionnaire will be used for academic purposes and is completely confidential.

In the questionnaire, a two-line space was provided for the respondents to express their opinions. This allowed respondents to provide any explanations,give further details and also query the clarity or simplicity of any question. The target population is important for this study and will be discussed in the following section.

5.2.3 Target Population

The target population for this study comprised of members of staff in the Federal Inland Revenue Services that is responsible for the collection of company income tax and deals with corporate bodies in Nigeria. However, it would be impossible to study all members of staff in the Federal Inland Revenue Service in all 36 states of the federation of Nigeria. Therefore, a sample was selected as discussed in the next section.

5.2.4 Sample

For the nature of this research, a non-probabilistic sampling technique was employed. The sample enabled the researcher to study a relatively small number of units in place of the targeted population in order to obtain data that is representative of the whole target population. The samples for this study comprise the Federal Inland Revenue Services (FIRS) staff in Abuja (the capital of Nigeria) and Lagos. In assessing the impact of ICT on company income tax collection, this study covers the activities of FIRS in company income tax collection, companies in relation to tax returns, tax payments, and tax practitioners, particularly in Abuja and Lagos. These two cities were chosen because they were convenient

for the researcher and Abuja is a federal capital territory, where all federal government establishments have their head offices, including FIRS. Lagos is the largest city in Nigeria, with a population of 21 million, and it is former federal capital, the centre of Nigeria's modern economy, and it generates about a quarter of Nigeria's total gross domestic product.

For determining the sample size, the researcher used Partem's (1950) formula for calculating sample size:

$$\mathbf{n = \frac{NZ^2 \times 0.25}{d^2 \times (N - 1) + (Z^2 \times 0.25)}}$$

Where

n = the sample size required, which is statistically representative

N = the target population size

d = confidence level (0.05)

Z = number of standard deviation units of the sampling distribution corresponding to the desired confidence level (given as 1.96 in the statistical table)

The staff strength is about 5600; therefore, the calculation of sample size is as follows:

$$\mathbf{n = \frac{5600 \times 1.96^2 \times 0.25}{0.05^2 * (5600 - 1) + (1.96^2 \times 0.25)}}$$

$$\mathbf{n = \frac{5378.24}{(13.9975) + (0.9604)}}$$

$$\mathbf{n = \frac{5378.24}{14.9579}}$$

$$\mathbf{= 359.558\ (360)}$$

5.2.5 Semi-structured interview

In addition to the questionnaire, the three Directors of FIRS, as high-level managers in FIRS, and the ICT head of FIRS were also interviewed to obtain first-hand evidence about the influence of ICT in their operations, their level of understanding of ICT, the type of infrastructure available, the constraints encountered, their current experiences and likely future impacts of ICT on the collection of company income tax. Before the interview, all publicly available documents related to CIT collection activities were read to provide additional information about how FIRS presented itself with regard to CIT collection. It covered FIRS documents such as the website, ITAS Newsletter, a quarterly publication of FIRS; company reports; press releases; codes of conduct/ethics; performance indicators; declarations of compliance; case studies; etc. These were used to prepare for interviews and to support interview data. Prior to conducting the semi-structured interviews, a copy of the letter of introduction, which includes the title of the research, aims of the study, expectations of the participants, benefits of participating, and name and contact information of the researcher, was given to the interviewees to get their consent for participating in the interview. The semi-structured interviews were conducted from November 2013 to January 2014. The duration of the semi-structured interviews ranged from a few minutes to an hour because the interviewees were interrupted by phone calls and by the entry and exit of various other people coming into the office to meet the interviewees. One director was not available for the semi-structured interview because he was on a sick leave. Four face-to-face semi-structured interviews were conducted. The following areas were proposed for the participants to discuss: improving the delivery of the service; measurement of service improvement; measurement of companies' satisfaction; accessibility of tax information; availability of ICT infrastructure; initiatives to reduce unnecessary expenditure; provisioning of information;

accessibility of the information; service cost; and tax process re-engineering. Semi-structured interviews were conducted in English. The permission of all the participants was obtained to record the interviews digitally. Semi-structured interview notes were taken to supplement the recorded interviews. The collected interview data was transcribed and analysed. The semi-structured interview questions were piloted with two academic staff to examine how effective it is in generating adequate responses for analysis of the identified five propositions stated above. Gray (2004: 214) stated that "there is a need to attain highly personalized data; there are opportunities required for probing; a good return rate is important and respondents are not fluent in the native language of the country or where they have difficulties with written language".

There are three basic approaches to collecting data through semi-structured interviews. The research used semi-structured interviews, which is often used when similar information is desired from all informants. According to Gerson and Horwitz (2002), "unlike the totally unstructured or structured interview, the semi-structured interview requires a framework of questions or issues to be explored in the course of the interview but with considerable flexibility in how and when they are to be asked". The major advantage of this approach is that it helps the current study to make best use of the limited time available, while at the same time making interviewing different people more systematic.

The next section of this chapter discusses the data collection.

5.3 Data Collection

The current study employed mixed methods to collect data for this study in addition to secondary data. Using questionnaires and semi-structured interview techniques to collect the

primary data, data collected through semi-structured interviews was coded and tested for completeness. Secondary data was mainly collected from the FIRS's office and the Central Bank of Nigeria by analysing official documents and annual reports. The quantitative survey method was employed to test, among other things, empirically the relationship between ICT and company income tax collection efficiency based on data from the Nigerian Tax Administration. The current study involves the activities of the tax administration, taxpayers, and tax practitioners in relation to company income tax collection. This study used multiple sources to collect data such as questionnaires, interviews and available reports. According to Yin (2009), "the major strength of case study data collection lies in the opportunity to use different sources of evidence collection which provides a converging line of enquiry which is described as triangulation". As mentioned earlier, verification and validation of the result will be obtained using multiple sources. Below are the sources of data collection, using a diagram adapted from Yin (2009) in page 190.

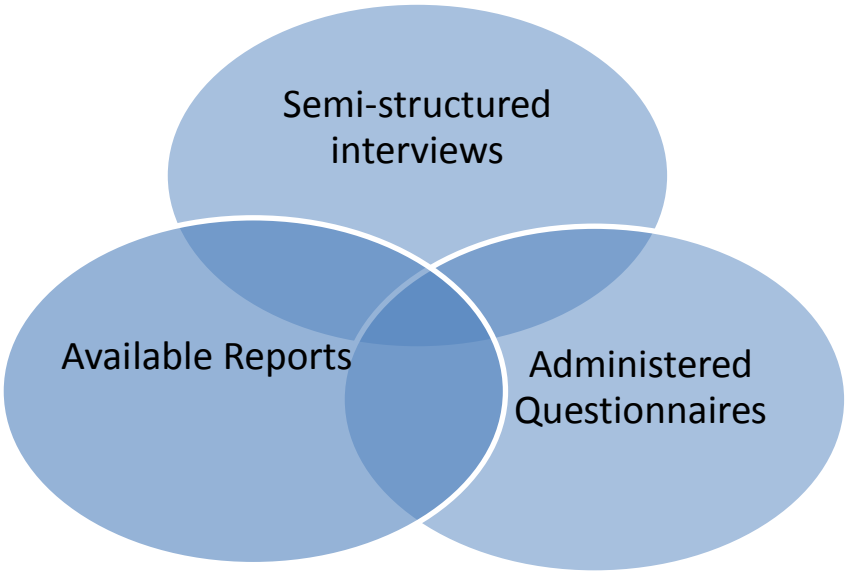

Fig. 5.2 Sources of data collection
Source: Adapted from Yin (2009)

To obtain useful information, the researcher took the following steps:

i) A letter confirming the authenticity of the researcher's identity and approval given to undertake the study was obtained from a De Montfort University authority (see Appendix B).

ii) The questionnaire was accompanied by an introductory letter from the researcher explaining the purpose of the study.

iii) The questionnaires were sent out in the first week of November 2013 to the Federal Inland Revenue Service. The members of staff in the Federal Inland Revenue Service confirmed their willingness to participate in the study and completed questionnaires and granted the interviews; finally a fifteen-day period was allowed for responding to the questionnaire.

Because of the interviewees' busy schedules, interviews were conducted with a tape recorder. The important statistical techniques adopted in this study were the reliability test, correlation and regression analysis. The reliability test is essential to evaluate the successfulness of the constructs considered in the study, and at the same time, correlation results will reveal the relationships among the variables. The regression analysis will explain the effect of the factors influencing adoption of e-tax filing and payment systems. Powell (1997) also discussed data collection techniques, specifically "identifying three methods such as [the] questionnaire, interview and observation". Powell (1997:89) stated, "these are data collection techniques or instruments, not research methodologies, and they can be used with more than one methodology".

The results appropriated data analyses from these three sources (interviews, questionnaires and secondary data) and triangulated to draw meaningful conclusions.

Data collection and analysis discussed in the next section.

5.4 Data Analysis

The gathered raw data was coded and tabulated, then analysed by using different analysis techniques. According to Kaewsonth and Harding (1992), "the process of data analysis involved several stages such as completed questionnaires that will be edited for completeness and consistency". In this study, the data obtained was coded and checked for any errors and omissions. The data generated through the questionnaire was analysed by means of SPSS version 21.0, using descriptive statistical methods such as frequency tables, correlation coefficients and one-way multinomial logistic regression. Using the correlation coefficient and multinomial regression analysis, the researcher determined the relationship and predictor power of the variable. Furthermore, this study used a correlation test to establish a connection or strength of relationship between two or more variables, the outcome of which might serve as a platform for further studies. Correlational research measures at least two variables and the plans for measuring variables are formalised prior to measurement (Graziano and Raulin, 2004). In this study three descriptive statisticals were produced in form of the frequency tables in order to provide a set of figures for the 'what' aspect of the research question and the correlation coefficients provide possible reasons for the outcomes generated by the frequency tables, answering the 'why' question, and the multinomial regression analysis determined the predictor power of the variables.

In this study, the correlation was used to determine the relationship between the use of ICT and transparency in company income tax collection, as well as the relationship between company income tax compliance and ICT usage in the collection of company income tax. Multinomial logit regression analysis was employed for the predictor power of the variables. The regression model tests were computed and presented to establish the prediction potential contribution of ICT to the effectiveness and efficiency of collecting company income tax.

According to Zikmund (2000), "the use of multinomial regression analysis is to determine how predictor variables could explain the dependent variable". There were multinomial logit regression analyses to be executed to find out the effect of independent variables (increased revenue and efficiency, positive tax compliance and compliance cost, information disseminations, potential contributions and improved transparency) on CIT collections and the effect of ICT on CIT net benefit. Correlation analysis tools including chi-square tests were also carried out to establish the strength of the relationship between variables.

The weighted average score (WAS) was carried out on the frequency tables and analysed all responses to each key scaled question, to enable the researcher to draw a conclusion. The Likert scales have been assigned a score of 1, 2, 3, 4 and 5 respectively for options ranging from Strongly Disagree (1) to Strongly Agree (5). The frequency of responses on each scale was multiplied by the weighting factor, divided by the total frequency of responses for the question, to arrive at a mid-position with no particularly strong opinion on the question (see the example in Table 5.8).

	5 Strongly agree	**4 Agree**	**3 Neither agree nor disagree**	**2 Disagree**	**1 Strongly disagree**	**WAS**
B2: Using ICT facilitates the CIT process	142*5 = 710 (61.7%)	81*4 = 324 (35.2%)	3*3 = 9 (1.3%)	1*2 =2 (0.4%)	3*1 =3 (1.3%)	1048/230 = 4.56

Table 5.8 Weighted Average Scores (WAS)

The following criteria in Table 5.9 were used to interpret the correlation coefficient generated through the SPSS (version 21.0).

Semi-structured interviews

The semi-structured interviews were conducted at the respondents' convenience, considering the busy schedules of FIRS staff involved, based on a list of questions prepared by the researcher (see Appendix B). The questions were designed to suit the level and activities of each interviewee, and were sent to the participants two weeks prior to the interview date. The semi-structured interview session was conducted on a one-to-one basis and guaranteed confidentiality. The subjects were equally assured that data gathered from them would not be disclosed to their employers, and each interview session was tape-recorded with the permission of the interviewee and later transcribed to avoid loss of vital data. This was complemented by the researcher's notes taken during the interviews. These notes were to serve as a backup in case the tape recording technology malfunctioned or the cassette could not be accessed. Five people (Directors in Corporate Development Group (CDG); Support Services Group (SSG); Tax Operations Group (TOG); Compliance and Enforcement Group (CEG) and Chairman's Office Group (COG) one of them was on sick leave) were to be interviewed, and each session lasted a maximum of twenty-five minutes. This study sorted, edited and coded the collected data and involved a number of closely related operations that were performed with the purpose of summarising the collected data.

The analysis of the data obtained through semi-structured interview was based on the strength of the views, explanations and arguments obtained from interviewees. To analyse the data to be collected through questionnaire, guidance needs to be followed concerning the database, coding data, entering the data in SPSS version 21 and analysing the data collected. "Efforts were made to reconcile and provide a useful link between the purpose of research and the aim and techniques of analysis that relate to the purpose" (Crowder and Lancaster, 2009).

The current study used three concurrent flows as identified by Miles and Huberman (1994): "data reduction, data display (presentation), and conclusion drawing and verification, [which] are described as follows:

i. Data reduction. The current study will examined the collected raw data to detect errors and omissions and to correct these when possible, and it involves reduction of the data and helps to sharpen, sort, focus, discard, and organise the data in a way that allows conclusions to be drawn and verified.

ii. Data display and presentation. This stage includes taking the reduced data and displaying it in an organised and compressed way so that conclusions can be more easily drawn. As with data reduction, the creation and use of displays is not separate from the analysis (but a part of it) and

iii. Conclusion drawing and verification. This is the third and final stage of the data analysis. It is in this stage that the researcher starts to decide what the different findings mean".

However, Denscombe (2000) states that "data analysis means that the researcher is deciding what and which meaning can be attributed to the (collected) data, what are the implications to that effect and how it relates to the topic being investigated".

The essence of this qualitative analysis paradigm reflects the accepted practice in dealing with qualitative data. It is perhaps more succinctly described by Bogdan and Biklen (1982:145) as "working with data, organising it, breaking it into manageable units, synthesizing it, searching for patterns, discovering what is important and what is to be learned, and deciding what you will tell others".

Several authors such as Hussey and Hussey (1997), Leedy and Ormrod (2001), Miles and Huberman (1994), Patton (2002) and Yin (1994) have expressed their opinions on how best

to present and analyse qualitative data gathered as part of phenomenological research. Leedy and Ormrod (2001), in particular, provided guidance in the area of data analysis in a case study that involved the following steps: i) Organisation of details about the case; ii) categorisation of data, which helps with classifying data into meaningful groups; iii) interpreation of single instances – specific documents, occurrences, and other bits of data are examined for the specific meanings that they might have in relation to the case; iv) identification of patterns – the data and their interpretations are scrutinised for underlying themes and other patterns; and v) synthesis and generalisations – this also helps to have an overall portrait of the cases. Conclusions are drawn that may have implications beyond the specific case that has been studied (Leedy and Ormrod, 2001:150).

The goal of analysing data is: i) to treat the evidence fairly; ii) to produce compelling analytical conclusions; and iii) to rule out alternative interpretations. The secondary data is discussed in section 5.5.

5.5 Secondary Data

The current study used secondary sources, which were previously published materials such as journal articles, magazines, books and annual reports relating to the Nigerian tax system published by various institutions such as the Central Bank of Nigeria (CBN), Federal Inland Revenue Services (FIRS) and the Chartered Institute of Taxation of Nigeria (CITN). Jarvenpaa (1990) pointed out that "secondary data presented a variety of untapped opportunities in information system research". The question of how efficiently FIRS is performing in terms of company income revenue collection and the share of revenue contribution of CIT with the introduction of ICT will be investigated by analysing tax revenue reports from FIRS and CBN.

5.6 Reliability and Validity

To confirm and ascertain the validity and reliability of the collected data, data collected with one method was cross-checked with another method. For instance, data gathered with the questionnaire method was cross-checked with interview and secondary data. "High validity demands high reliability and, in practice, high reliability is found to give comfort to research workers, even where validity is clearly the crucial issue..." (Scott, 1961:179, cited in Akbayrak, 2000:7).

5.6.1 Reliability

The reliability test was conducted on the pilot data. The pilot study and main study used Cronbach's alpha value to test the reliability of the items measuring each of the independent and dependent variables. According to DeVellis (2003), "the recommended Cronbach's alpha coefficient of a scale should be above .7". In another study, Pavot *et al.* (1991) suggested "a satisfaction with life scale that has internal consistency with a reported Cronbach's alpha coefficient of .85"; however, the questionnaire instrument used for this study was tested for reliability of internal consistency using SPSS version 21. The result shows a Cronbach's alpha coefficient of .85, as shown in Table 5.10 below.

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.854	.854	25

Table 5.10 Reliability Statistics
Source: Field survey (2012)

Values of Cronbach's alpha greater than 0.70 are usually sought in social science research (Nunually and Bernstein, 1994). According to Akbayrak (2000:8), reliability of a questionnaire can be accomplished in two ways: one approach is to ask the same question that was presented early in the questionnaire in the same or a slightly different form, and the second approach is to re-administer a questionnaire to the same group of respondents several days later and compare the results obtained.

According to Chisnall (1995), "reliability refers to the stability and consistency of the results derived from research; probability refers to the likelihood that the same results could be obtained if the measures used from research were replicated". "The researchers have to feel confident that a research instrument does not affect their measurements" (Denscombe, 2000).

5.6.2 Validity

According to Carmines and Zeller (1979), validation involves three major steps: theoretical validation, empirical validation and construct validity.

The language (and writing format) used in the questionnaire was chosen to fit the respondents' frames of reference. This study paid particularly close attention to the risk of transferring the language used by professionals within electronic commerce into the questionnaire. In addition, further action was taken to improve external validity by focusing on the content of the questions. The questions and their related items were subjected to scrutiny in order to see if they needed further improvement. Validity is a means to find out if the questionnaire measured what it needs to measure. According to Akbayrak (2000), "the validity of a questionnaire concerns the extent to which it is actually capable of providing information, which it claims to provide and the data obtained by a questionnaire survey are valid if they measured what they were supposed to measure". It is important that the validity

was good, to make sure it measured what it was supposed to measure; otherwise, the results are useless.

There are different types of validity; inferences about the validity of interviews were made on the basis of face validity, that is, whether the questions asked seemed to measure what they claim to measure. According to Akbayrak (2000), "one way of validating interview measures was to compare the interview measure with another measure that has already been shown to be valid and if two measures agreed, it can be concluded that the validity of the interview was comparable with the reliable validity of the other measure". Ross (1992:175, cited in Akbayrak, 2000:7) states, "the validity of the interview as a legitimate interactional process depends crucially on the interface between the way language is used for the purpose of communication in the interview and how this use represents the extent and quality of linguistic accommodation in native-non-native discourse".

Generalization means the extent to which the researcher can make a wider claim based on the research and analysis, rather than stating that the analysis is particular. The actions taken to ensure high external validity were many. However, much energy has been put into the exact wording of the questions.

The limitations of these studies improve the researcher's understanding of the complexities involved in the selection of research methodology and the collection of primary data (as discussed later).

5.7 Limitations and Potential Problems

ICT infrastructure in Nigeria is not well developed and expanded to all parts of Nigerian society. It is largely urban-oriented. It necessitates basic literacy and a certain level of

English language skills that the majority of Nigerians do not have. A generalised assessment of the impact of ICT on company income tax collection in such a context becomes quite complex. There were no in-place facilities to facilitate users to begin using the e-filing and payment system.

According to Carter and Belanger (2005), "quantitative studies encounter limitations in their research with respect to the size of sample as identified by selection of appropriate statistical tools" (Horst *et al.,* 2007), in addition to a lack of internal validity (Barnes and Vidgen, 2006), lack of external validity (Fu *et al*., 2006), and lack of a representative sample (Akman *et al.,* 2005).

In other studies, limitations of the qualitative approach are the subjective nature of the analysis (Gupta and Jana, 2003), the credibility of analytical techniques (Barnes and Vidgen, 2006), the generalizability of results (Fu *et al.,* 2006), and lack of a proportionate representative sample (Choudrie *et al.,* 2005).

5.8 Chapter Summary

This chapter covered the research methods: the research philosophy in relation to other philosophies and the basis that underpinned the methodology chosen for this study, research designs employed, the data collection procedure undertaken, and the research instruments (such as questionnaire and interviews). It also explained the analytical procedures utilised. The chapter ended with the potential limitations to the research methodology employed and a summary of the chapter. The rest of this study covers data analysis in chapter 6 and conclusions, recommendations and future studies in chapter 7.

Chapter Six

Data Analysis

6.0 Introduction

This chapter covers the presentation and analysis of both primary and secondary data collected through a quantitative (detailed questionnaire) research instrument and subsequent semi-structured interview sessions (qualitative), in order to explore the impact of ICT on collection of company income tax in Nigeria. In this study, in order to achieve a logical sequence, the quantitative data (questionnaire) is first presented for each proposition, followed by qualitative (semi-structured interview) and secondary data with discussions. This study adopts a method of mixing data called connecting data (Creswell and Clark, 2007). Thematic analysis is carried out to bring out themes that are relevant to proposition 1. The respondents were asked to discuss ten topics: improving the delivery of the service; measurement of service improvement; measurement of taxpayers' satisfaction; accessibility of tax information; availability of ICT infrastructure; initiatives to reduce unnecessary expenditure; provision of all necessary CIT information to the taxpayers; accessibility of the information; service cost; and tax process re-engineering.

A total of 230 questionnaires were returned from the 360 questionnaires that were distributed, and this represents a response rate of 63.89%. The data was entered and analysed in the Statistical Package for Social Scientists (SPSS) programme (version 21). Descriptive statistics were generated; reliability tests were carried out, and the demographic profile of respondents and awareness of ICT analyses presented in the form of frequencies tables in order to simplify the data collected with questionnaire. Then there is a detailed analysis of responses using non-linear regression, and one way multinomial logistic regression analysis was conducted in order to analyse and present the research data obtained from the

questionnaire combined with semi-structured interview analysis to evaluate the relevant propositions and reach conclusions. Previous studies were further considered before conclusions were drawn regarding the use of ICT in CIT collection.

The first section of the analysis included the reliability test and data on demographic characteristics such as gender, age group, position, experience and education of the respondent. Also presented in the first section is data on the respondents' awareness of ICT (e-tax payment system). The study used correlation and one way multinomial logistic regression analysis to determine the relationship and the predictor power of the variables, to identify ways in which ICT can further enhance effectiveness and efficiency in CIT collection.

6.1 Test of Reliability (Cronbach's Alpha Test)

"Reliability tests measure the internal consistency and stability of the multi-item scales and the extent to which the measurement across the items in the questionnaires are biased" (Hong, 2005). Table 6.1 summarises the results of reliability tests (Cronbach's Alpha) for factors involved in this study.

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No. of Items
.909	.887	37

Table 6.1 Reliability Statistics
Source: Field Survey, 2013

From the above table that relates to the reliability of the data gathered through the instrument, it is found that the alpha coefficient for the thirty-seven items is 0.909. This indicates that the items pertaining to the use of ICT in CIT collection have a relatively high level of internal

consistency. A measure of construct reliability (Cronbach's Alpha) was computed for each dimension to evaluate the reliability of the set items establishing that specific dimension, as shown in Table 6.2.

Dimensions	Cronbach's Alpha	N of Items
Enhancement and improved Revenue	.765	5
Compliance	.820	7
Dissemination	.644	4
Transparency	.768	4
Effectiveness and Efficiency	.761	8

Table 6.2 Reliability Statistics
Source: Field Survey, 2013

The coefficients range from 0.644 to 0.820; the enhancement scale reflects 76.5% reliability, Compliance 82%, Dissemination 64.4%, Transparency 76.8%, Effectiveness and Efficiency 76.1%. As a rule 0.70 (70%) or more represents satisfactory reliability of the items measured. The benchmarked data states that alphas of more than .70 are good enough to be analysed in order to produce reliable and valid data, although this may decrease to .60 in exploratory research (Hair *et al.*, 2006:102, 137).

		N	%
Cases	Valid	230	100.0
	Excluded[a]	0	.0
	Total	230	100.0

Table 6.3: Case Processing Summary
Source: Field Survey, 2013

Information from the questionnaires was entered into SPSS software to run the needed statistics. Figure 6.1 below shows section "A" of the questionnaire.

A1. Gender: Male ☐ Female ☐

A2. What is your age? Below 20 ☐ 20-29 ☐ 30-39 ☐ 40-49 ☐ 50-59 ☐

60 or above ☐

A3. What is your current position? ……

A4. How many years' experience have you had in your current position?

Below 2 years ☐ 3-5 years ☐ 6-10 years ☐ more than 10 years ☐

A5. What is your qualification?

OND ☐ HND/BSC ☐ MSC/PHD ☐ ACA/ACIT/ACCA ☐ Other specify ☐

Fig.6.1 Section A from the questionnaire – respondent profile
Source: Field Survey, 2013

The attributes that were within the demographic and background characteristics of respondents are discussed in the next section.

6.2 Respondent profiles

Demographic and background attributes such as gender, age, position, experience and educational background were discussed and are presented in the table below.

	Frequency	Percent	Valid Percent	Cumulative Percent
Male	142	61.7	61.7	61.7
Female	88	38.3	38.3	100.0
Total	230	100.0	100.0	

Table 6.4 Gender
Source: Field Survey, 2013

The table above indicates that more males participated in the questionnaire survey than females. From 230 participants who responded to this survey, 61.7% were male and 38.3% were female. From Table 5.4, a "gender divide" has also been identified.

	Frequency	Percent	Valid Percent	Cumulative Percent
Below 20	9	3.9	3.9	3.9
20 - 29	50	21.7	21.7	25.7
30 - 39	90	39.1	39.1	64.8
40 -49	62	27.0	27.0	91.7
50-59	19	8.3	8.3	100.0
Total	230	100.0	100.0	

Table 6.5 Age
Source: Field Survey, 2013

Table 6.5 above shows that the majority of the respondents fall within the range of 30-39 which accounted for 39.1% of responses. In addition, the category for respondents below 20 years accounted for 3.9%; the 20-29 group has 21.7%; those between the ages of 40 and 49 years accounted for 27% and 8.3% were respondents 50 and above. From Table 6.5, it can be observed that most of the respondents were 18 to 49 years old. This suggests that majority of employees of Federal Inland Revenue Service are at their physical best and this might have been as a result of employment policy of the Service. The survey also indicates that older people are inclined to be less optimistic,unlike younger respondents. Choudrie and Dwivedi (2006) found that "age is a possible factor that can influence the adoption of new technologies such as an e-tax payment system".

	Frequency	Percent	Valid Percent	Cumulative Percent
Officer	144	62.6	62.6	62.6
Manager	79	34.3	34.3	97.0
Director	7	3.0	3.0	100.0
Total	230	100.0	100.0	

Table 6.6 Position
Source: Field Survey, 2013

In terms of position, out of 230 respondents, 3.1% were directors, 34.3% were managers and 62.6% were officers.

In order to establish how well the respondents were acquainted with the dynamics of using ICT in CIT collection, the participants were asked to state the number of years they have worked for the Federal Inland Revenue Service. The results are presented in Table 6.7 below.

	Frequency	Percent	Valid Percent	Cumulative Percent
0-2 years	35	15.2	15.2	15.2
3-5 years	66	28.7	28.7	43.9
6 -10 years	83	36.1	36.1	80.0
More than	46	20.0	20.0	100.0
10 years	230	100.0	100.0	
Total				

Table 6.7 Experience
Source: Field Survey, 2013

Table 6.7 above indicates that the majority of the participants have served the Federal Inland Revenue Service in their current positions between 6 to 10 years, and 20% of the participants have more than 10 years' experience. Others have been in their positions for not more than 2 years and between 3 and 5 years (15.2% and 28.7% respectively). This indicates that the participants' working experience covered all ranges, withthe majority of participants having worked for the Federal Inland Revenue Service for 6-10years. Therefore, the participants have enough experience in using ICT in their daily activities, and the tax officers that participated in the survey have had substantial e-tax experience which enables the Federal Inland Revenue Service to achieve its goal and aim to improve internal processes and operations. The researcher deems it fit to use the respondents' opinions because the majority have cognate experience in the Federal Inland Revenue Service.

Educational Background

	Frequency	Percent	Valid Percent	Cumulative Percent
OND	17	7.4	7.4	7.4
HND/BSC	103	44.8	44.8	52.2
MSC/PHD	63	27.4	27.4	79.6
ACA/ACIT/ACCA	41	17.8	17.8	97.4
Others	6	2.6	2.6	100.0
Total	230	100.0	100.0	

Table 6.8 Educational background
Source: Field Survey, 2013

The levels of education of respondents were placed in five categories: Ordinary Diploma (OND), Higher Diploma and Bachelor of Science degree (HND/BSC), Master of Science degree and Doctor of Philosophy (MSC/PHD), various professionals (ACA/ACIT/ACCA), and other (specify) education. About 27.4% had a Master of Science degree/Doctor of Philosophy (MSC/PHD), 44.8% of the respondents had a Higher Diploma and Bachelors of Science degree (HND/BSC), 17.8% had various professional certificates (ACA/ACIT/ACCA), and 2.6% had other types of education, while Ordinary Diploma holders (OND) accounted for 7.4%. One observation among the respondents is that there is a high level of education. It shows that their level of education helped the respondents to use and understand the usage of ICT in CIT collection and to educate taxpayers as well as interpret the tax laws and regulations appropriately. It confirmed Andreoni *et al.* (1998), Boame (2008, 2009) and Walsh (2012)'s findings that educated people may be better informed of tax laws, which should positively influence compliance. However, Kasipillan and Jabber (2006) also confirmed that gender, academic qualifications and the person preparing tax returns were statistically significant as determinants of a non-compliant attitude; female, educated, older, and married self-employed people are less tax non-

compliant, and more taxes could be collected from these groups than their counterparts (Asante and Baba, 2011).

		Frequency	Percentage (%)
Gender	Male	142	61.7
	Female	88	38.3
Age	Below 20	9	3.9
	20 -29	50	21.7
	30 -39	90	39.1
	40 - 49	62	27.0
	50 and above	19	8.3
Position	Director	7	3.1
	Manager	79	34.3
	Officer	144	62.6
Experience	0-2Years	35	15.2
	3-5Years	66	28.7
	6-10Years	83	36.1
	>10Years	46	20.0
Educational Background	OND	17	7.4
	HND/BSC	103	44.8
	MSC/PHD	63	27.4
	ACA/ACIT/ACCA	41	17.8
	OTHERS(specify)	6	2.6

Table 6.9 The repondents' profiles
Source: Field Survey, 2013

The next section discusses demographic characteristics of the interviewees.

		Frequency	Percentage
Gender	Male	3	75%
	Female	1	25%
Position	Director (D1;D2;D3)	3	75%
	Manager (M)	1	25%
Length of Service	1 – 5	1	25%
	6 -10	1	25%
	More than 10	2	50%
Educational Background	B.Sc./M.Sc.	1	25%
	ACCA/ACA	2	50%
	Other Professions	1	25%

Table 6.10 Demographic Characteristics of the Interviewees
Source: Field Survey, 2013

Table 6.10 above shows the demographic profile of three directors and one manager who were interviewed: 75% were male and 25% were female and the majority of the interviewees have served more than six years, which suggests that they are experienced. This suggests that the interviewees would be quite familiar with the influence of ICT in their operations, the level of understanding of ICT, the type of infrastructure available, the constraints encountered, and the current and likely future impacts of ICT on the collection of company income tax. The awareness of the use of ICT in CIT collection is discussed in the next section.

6.3 Awareness of the Use of ICT in CIT Collection

Information from the questionnaires was entered into SPSS software to run the needed statistics. Figure 6.2 below shows section "A" of the questionnaire – the awareness of the use of ICT in CIT collection.

A6. Do you agree with the introduction of ICT in company income tax collections?

Yes ☐ N☐

A7. Can the use of ICT be beneficial in CIT collections?

Ye☐ ☐

A8. Can introduction of ICT in CIT collections reduce cumbersome manual procedures?

Yes☐ N☐

A9. Can ICT in CIT collections introduce a new cumbersome proc☐dure☐Yes No

Fig 6.2 Section A from the questionnaire – awareness of the use of ICT in CIT collection
Source: Field Survey, 2013

A6: Do you agree with the introduction of ICT in company income tax collection?

In order to establish the awareness of the introduction and acceptance of the use of ICT in CIT collection, respondents were asked if they agreed with the introduction of ICT in CIT collection, as shown in Table 6.11 below.

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	228	99.1	99.1	99.1
No	2	.9	.9	100.0
Total	230	100.0	100.0	

Table 6.11

Source: Field Survey 2013

As shown in Table 6.11, 99.1% of the respondents agreed and 0.9% disagreed with the introduction of ICT in company income tax collection. This indicates that the attitude of Federal Inland Revenue Service staff towards ICT in CIT collection is good and beneficial. It may be attributed to either the level of training that Federal Inland Revenue Service management has provided or the participants' individual efforts to acquire skills and knowledge. "Understanding how and why people accept or reject an information system has proven to be one of the most challenging issues in information system research", (Delone and McLean, 1992). As shown in chapter three section 3.4.3, various researchers have used the Technology Acceptance Model (TAM), originally proposed by Davis *et al*. (1989), to underpin technology adoptions in both developed and developing economies of the world.

The next section analysed and discussed the benefits of using ICT in CIT collection.

A7: Can the use of ICT be beneficial in CIT collections?

In order to establish the benefits of using ICT in CIT collection, the respondents were asked if they agreed that the use of ICT in CIT collection is beneficial, as shown in Table 6.12 below.

	Frequency	Percentage	Valid Percent	Cumulative Percent
Yes	227	98.7	98.7	98.7
No	3	1.3	1.3	100.0
Total	230	100.0	100.0	

Table 6.12

Source: Field Survey 2013

Of the respondents, 98.7% indicated that the use of ICT in CIT collection is beneficial, while 1.3% of the respondents disagreed based on Table 6.12 shown above. The results from Table 6.12 above implied that it is easier to use ICT in CIT collection than the manual procedure.

Discussion

The findings of this study are similar to various policy blueprints produced over the years that argued that "ICT was essential to increase transparency and accountability of government agencies, reduce transaction costs in service delivery and enhance participation of citizens, businesses and civil society in the workings of governments" (Otieno *et al*., 2013). The findings of this study are similar to the findings of other scholars such as Vasudevan (2007), who observed that "automating customs administration leads to increased collection of duties and taxes due to the uniform application of laws and regulations; the automated calculation of tax dues; and built-in security." Previous scholars such as Dabholkar, (1994) and Mick and Fournier (1998), as cited in Lai *et al.* (2004), found that "a combination of positive and negative beliefs about technology underlies the domain of technology." Dabholkar (1994) found that "individuals simultaneously harbour positive (favourable) and negative (unfavourable) beliefs about technology; however, the positive beliefs propel individuals towards new technologies, while negative beliefs may hold them back". Dorasamy *et al.* (2010) found that "taxpayers have intentions to use e-tax systems as they perceived that the tax submission method via internet is more convenient and perceived readiness towards using

technology is paramount to their belief for using e-tax systems". In the next section, the reduction in cumbersome manual procedures as a result of the use of ICT in CIT collection will be analysed and discussed.

A8. Can the introduction of ICT in CIT collections reduce cumbersome manual procedures?

In order to establish the reduction in cumbersome manual procedures, the respondents were asked if they agreed that the introduction of ICT in company income tax collection has reduced cumbersome manual procedures as shown in Table 6.13 below.

	Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Yes	226	98.3	98.3	98.3
No	4	1.7	1.3	100
Total	230	100	100	

Table 6.13
Source: Field Survey, 2013

Table 6.13 shows that 226 respondents, representing 98.3%, mentioned that they agreed with the introduction of ICT. This indicates that the system has reduced delays in all processes and operations regarding company income tax collection.

Discussion

The findings of this study, as shown in Table 6.13 above, indicate that the introduction of ICT in CIT collection has reduced cumbersome manual procedures and thereby improved the relationship between the Federal Inland Revenue Service and taxpayers. ICT enhances efficient and effective utilization of resources; improves establishment of information and service delivery; reduces the cost incurred in enforcing compliance of company income tax by the Federal Inland Revenue Service; reduces transaction costs for the taxpayers through

online products and services; provides a forum for taxpayers' (companies) participation in tax activities; and ensures that services are available to taxpayers over a wide range of access tools commonly used by citizens and businesses. These findings are similar to the findings in Chatama's (2013) study, which found that "the use of ICT has reduced administrative and collection costs; decreased need for personnel; time savings for taxpayers due to fast processing; transparency in assessment, collection, and related processes; reduced tax compliance costs; reduced communication costs; and timely access to information which results into plugging all revenue loss and improved efficiency and performance in revenue collections". The questions on new cumbersome procedures related to the use of ICT in company income tax collection were discussed in the next section.

A9. Can ICT in CIT collection introduce a new cumbersome procedure?

In order to establish that FIRS members of staff have acquired the necessary ICT skills to do their work faster in comparison to manual procedures, the participants were asked to indicate if the use of ICT in company income tax collection has introduced a new cumbersome procedure, as shown in Table 6.14 below.

	Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Yes	98	42.6	42.6	42.6
No	133	57.4	57.4	100.0
Total	230	100.0	100.0	

Table 6.14
Source: Field Survey, 2013

Table 6.14 shows that 133 respondents out of 230 (57.4%) disagreed that the use of ICT in CIT collection has introduced a new cumbersome procedure. However, 42.6% of the respondents did feel that the use of ICT in CIT collection has introduced a new cumbersome procedure and this may be as a result of other factors. It indicates that FIRS staff has acquired the necessary skills and knowledge, improved interaction between tax authority and taxpayers and fostered transparency and accountability in administration of company income tax collections.

Discussion

The 42.6% in Table 6.14 above suggests that there are other factors that may influence the adoption of the use of ICT in CIT collection such as age, gender, educational background, cultural factors, management influence, and political situation. The results of this study contradict the results of the previous studies such as Kun *et al.* (2008), which stated that "the e-tax system in Turkey could only be used by Certified Public Accountants given the complexity of the system"; Muwonge (2011) identifies that, in "Uganda, which is an exceptional case due to the government's commitment to the development of cyber infrastructure because the system was designed to be used by nationals whether professional tax consultants or not". In relation to the findings of this study, Victor-Nyambo (2009), as cited in Chatama (2013), found that ICT helps to maintain consistent record keeping, timely access to such records and fast processing of returns, which together improved the performance of tax revenue. Other scholars, such as Mugisha (2001), attest that the use of ICT enhances timely access to accurate and relevant information, which is a prerequisite for good planning, programming, and implementation. It also enhances monitoring and evaluation, which forms the key component in development. Suluo (2003) shows that ICT use has led to high level organisational growth, and Crede (1998) revealed that ICT has the

capacity to increase productivity and create more cost effective output with the same or less inputs, and development of ICT applications for business use alters the approach to organisations' function and eventually improves their services and products. Manly *et al.* (2005) found out that such e-tax systems are favourable to governments and help to prevent tax evasion. The Uganda Revenue Authority continued to witness tax processing and clearance delays, despite its use of computer programs to transfer electronic information required by tax authorities to authenticate tax declarations and make accurate assessment of tax dues (Isaac and Lilian, 2010). Ikwuje (2012) found that "tax evasion and avoidance are major hindrances to revenue generation, non-compliance with tax laws on the part of taxpayers is a hindrance and ineffective tax administration". Based on the findings of this study, those hindrances identified by Ikwuje (2012) had been addressed with the use of ICT in company income tax collection. In relation to the findings of this study, Ndonye (2012) found that 65% of the respondents strongly agreed that making online applications is challenging among people seeking the service, due to lack of technological knowledge. In addition, other challenges to the use of technology were inadequacy of facilities for the use of technology, collecting staff's lack of knowledge and skills in using ICT in the collection of revenue, resistance to change by the employees in the ministry, inadequate ICT infrastructure in the ministry and the incorporation of the non-automated system of revenue collection. This result was also ascertained by the previous study conducted by Sang *et al.* (2009), which discussed the challenges critical to implementing e-tax filing, including variation in support among leadership, the lack of high prioritisation of e-government, poor ICT infrastructure, low rates of literacy and high turnover rates among government information technology staff. "The usage intention of e-tax system varying because of its security and performance expectancy, social influence, computer anxiety, optimism bias and trust of the government all have a significant impact on intention to use an e-tax filing system" (Carter *et al.,* 2011).

Evidence shows that "effective use of ICT tools to support e-government (e-tax) services heavily depends on the availability of affordable, reliable, relevant technology infrastructures, skilled manpower and a well-developed national ICT policy" (Kamar and Otenyo, 2009).

In the next section, proposition 1 is analysed and discussed.

6.4 Proposition I: The introduction of ICT in CIT collection has enhanced and improved revenue generation

To evaluate Proposition 1 above, analysis of the questionnaire survey in tables 6.15 and 6.16, secondary data analysis in section 6.4.2 and evidence from the semi-structured interview comments in section 6.4.1 were all used to develop the discussion. The questionnaire findings have been strengthened by supplementing them with interview and secondary data.

This question aims to investigate the state of company income tax with the existing use of ICT. It also indicates the factors influencing the adoption of ICT in CIT collection, such as positive impact on the functioning of the Federal Inland Revenue Service, improved service delivery to taxpayers and ICT improved revenue generation at the Federal Inland Revenue Service.

	5 Strongly agree	**4 Agree**	**3 Neither agree nor disagree**	**2 Disagree**	**1 Strongly disagree**	**WAS**
B2: Using ICT facilitates the CIT process	142 (61.7%)	81 (35.2%)	3 (1.3%)	1 (0.4%)	3 (1.3%)	1048/230 = 4.56
B1: The use of ICT has minimised errors in	154 (67%)	69 (30%)	2 (0.9%)	3 (1.3%)	2 (0.9%)	1060/230 = 4.61

CIT return processing						
B3: ICT allows using available data more effectively to improve forecasting of fiscal revenue	136 (59.1%)	86 (37.4%)	5 (2.2%)	1 (0.4%)	2 (0.9%)	1043/ 230 = 4.54
B4: Using ICT helps to file company income tax (CIT) returns	132 (57.4%)	83 (36.1%)	10 (4.3%)	5 (2.2%)	0 (0%)	1032/ 230 = 4.49
B5: The ICT system facilitates faster payments of CIT than the manual system	155 (67.4%)	61 (26.5%)	11 (4.8%)	2 (0.9%)	1 (0.4%)	1057/ 230 = 4.60
B14: The introduction of the e-tax collection system has increased CIT revenue.	128 (55.6%)	75 (32.6%)	25 (10.9%)	2 (0.9%)	0 (0%)	1019/ 230 = 4.43

Table 6.15 Calculated WAS for Questions B1; B2; B3; B4, B5 and B14
Source: Field Survey, 2013

The calculated WAS on a Likert scale of five for questions B2, B1, B3, B4 and B5 are shown in Table 6.15. Question B4 (Using ICT helps to file company income tax (CIT) returns) generated the lowest WAS of 4.49. Questions B2, B1, B3 and B5 have similar WAS that ranges between 4.54 and 4.61 that most respondents "agreed or strongly agreed". The result corroborates the view of previous studies that the use of ICT in CIT collection has increased

revenue generation (Chatama, 2013; Kitillya, 2012; Victor-Nyambo, 2009; Hilton, 2008). The maximum WAS obtainable was 5 and the result shows that more than 80% of those sampled agreed that ICT has enhanced and increased CIT collection. This also shows a good level of agreement between respondents about ICT usage in CIT collection and the factors influencing the adoption of ICT in CIT collection.

Table 6.16 shows the Spearman's rho correlation relationship between ICT usage in CIT collection with other influencing factors.

The use of ICT has minimised errors in CIT return processing	Correlation Coefficient	1.000	.429**	.438**	.358**	.438**
	Sig. (1-tailed)		.000	.000	.000	.000
	N	230	230	230	230	230
Using ICT facilitates the company income tax collection process	Correlation Coefficient	.429**	1.000	.294**	.341**	.333**
	Sig. (1-tailed)	.000		.000	.000	.000
	N	230	230	230	230	230
ICT allows using available data more effectively to improve forecasting of fiscal revenue	Correlation Coefficient	.438**	.294**	1.000	.303**	.433**
	Sig. (1-tailed)	.000	.000		.000	.000
	N	230	230	230	230	230
Using the ICT helps to file company income tax (CIT) returns	Correlation Coefficient	.358**	.341**	.303**	1.000	.395**
	Sig. (1-tailed)	.000	.000	.000		.000
	N	230	230	230	230	230
The ICT system facilitates faster payments of CIT than manual the system	Correlation Coefficient	.438**	.333**	.433**	.395**	1.000
	Sig. (1-tailed)	.000	.000	.000	.000	
	N	230	230	230	230	230
Using ICT in collection of CIT increases the overall revenue collection	Correlation Coefficient	.442**	.382**	.430**	.477**	.399**
	Sig. (1-tailed)	.000	.000	.000	.000	.000
	N	230	230	230	230	230

**. Correlation is significant at the 0.01 level (1-tailed).

Table 6.16 Spearman's rho Correlations
Source: Field Survey, 2013

The correlation results in Table 6.16 show that the use of ICT in CIT collection has minimised errors in CIT return processing (r =1, sig< 0.01); it facilitates the CIT process (r = 0.429, sig. < 0.01); it allows using available data more effectively to improve forecasting of fiscal revenue (r =0.438, sig < 0.01); it helps file CIT returns (r = 0.358, sig.< 0.01); and it facilitates faster payments of CIT than the manual system (r = 0.438, sig. < 0.01). These results imply that the use of ICT adoption in CIT collection has been influenced by many factors, such as easy monitoring and evaluation, good planning and quick processing among other factors.

The interview results on ICT usage in CIT collection are discussed next.

6.4.1 Interview results regarding whether the introduction of ICT in CIT collection has improved revenue generation

The officials of FIRS were asked about the use of ICT in CIT collection and the improvement in service delivery to taxpayers.

	No N= 4	**Percentage %**
The use of ICT in CIT collection enhances protection of revenue collection	3	75%
ICT in CIT collection eliminates all drawbacks of manual data capture operations	2	50%
ICT usage improves CIT collection	4	100%
ICT usage has improved the delivery of services to taxpayers (companies)	3	75%

Table 6.17 Interview results on ICT usage in CIT collection
Source: Field Survey, 2013

Three of the interviewees (75%) believe that ICT usage has improved the delivery of services to taxpayers (companies). This is consistent with Geetanjali (2011), who found that the average response of service providers and seekers towards the effectiveness of e-services is positive, and organisational factors (human resources, ICT infrastructure, financial resources

and attitude of service providers) are associated with the effectiveness of e-services. Out of the four interviewees, two interviewees (50%) agreed that ICT in CIT collection eliminates all the drawbacks of manual data capture operations. Similarly, Fu *et al.* (2006) found that electronic filing of personal income taxes (e-file) has the potential of improving the overall process of tax filing for the individual, while at the same time reducing the cost for both taxpayers and tax collection agencies. From Table 6.17, four (100%) interviewees agreed that ICT usage improved CIT collection.

The leakages in the company income tax collection in Federal Inland Revenue Service have been blocked with the existing use of ICT in company income tax collection. About 95 percent of taxes collected by FIRS is now online. The following are comments from one of the interviewees (D1):

> "*The use of ICT has led to good delivery of the services, more efficient management, less corruption, more transparency, greater convenience, and increased revenue and reduced costs. With ICT, the company can do electronic filing, filing of detailed reports, electronic payments, registration, refunds and obtain taxpayer registration certificates or tax clearance certificates without visiting the tax office and arrange for instalment payment plans. It provides efficient and effective services to taxpayers and public and reduces interaction with staff. It provides a suitable environment for efficient and effective delivery of services to taxpayers and facilitates seamless sharing of information across FIRS and relevant 3rd parties for data-matching purposes in order to detect non-compliance and to facilitate combined enforcement actions"*
>
> Director (D1)

The bigger automation collection process is called Project FACT – an acronym for Friendly, Accurate, Complete and Timely – one of the several processes to improve the collection system. Federal Inland Revenue Service (FIRS) have moved past having rooms full of clerks posting entries by hand in large books. Tax collection in the Nigerian Inland Revenue Service became automated about a year after Omoigui's appointment in November 2005. "The

beauty of the system is that from the Chairman's table and that of any authorised official, the Federal Inland Revenue Service chairman could obtain Federal Inland Revenue Service daily collection data from any part of the country. Collection is swept automatically through the Interswitch-based collection system from the 12 collecting banks to the lead banks and from thence to the Central Bank of Nigeria (CBN). Interswitch is an ICT firm that provides the backbone for the bulk of e-payment transactions in Nigeria". One of the interviewees (D3) confirmed that the use of ICT in CIT collection enhanced protection of revenue collection:

> *"Hmmmm! How e-collection contained $92 million loss at Nigerian Inland Revenue Service. Few people like to pay tax. In Nigeria and many parts of developing world, some tax officials, in collusion with some banks and mega corporations often squirrel bits and pieces of tax revenue. The story is changing in Nigeria, where the Federal Inland Revenue Service has deployed Information and Communications Technology, ICT to plug the $92 million (N12billion) loss that traditionally vanishes into private pockets". "This amount-which could fetch Nigerian rural communities and villages 24,000 boreholes –at $3846 (N500, 000 naira) per borehole -- is the value of the loss which the automation of tax collection in Federal Inland Revenue Service has contained". In a country with less than 10 per cent IT penetration, Federal Inland Revenue Service's attainment exemplifies how functional application of information technology, IT, could promote efficiency, accountability and plug institutional leakages. Omoigui led the Nigerian federal tax agency to collect over 15 billion dollars ($15,000,000,000.00), tax revenue for the three tiers of Government in Nigeria: federal, states and local governments".*

Directors (D3) and (D2)

From the statement above, the use of ICT in CIT collection has enhanced protection of revenue collection; efficient and effective provision of services to taxpayers; limitation of the tedious, costly and error-prone manual data capture operations currently undertaken by staff who will be free to do more productive work; effective tax administration through enhanced control; monitoring of taxpayer activities and enhanced taxpayer's compliance; reduced operational costs and efficient utilisation of the Federal Inland Revenue Service's resources.

Director 2 explained that the e-tax system has reduced the incidence of petty graft associated with paper-based and manual processes through minimization of taxpayers and staff contact; improved security of information; improved tax collection and facilitated seamless sharing of information across the Federal Inland Revenue Service. One of the interviewees stated that relevant 3rd parties for data-matching purposes are used to detect non-compliance and to facilitate combined enforcement actions; provide a single view of a taxpayer; reduce the cost of collection and compliance; exploit advances in technology; and facilitate staff performance measurement and monitoring. Chatama (2013) found that "the introduction of ICT use in CIT collections curbs cheating and plugs revenue loss". The secondary data analysis also supports the usage of ICT in CIT collection, as discussed in the next section.

6.4.2 Secondary Data Analysis

The question of how efficiently the Federal Inland Revenue Service was performing its functions (in terms of CIT collection) was answered by analysing CIT revenue reports from the Federal Inland Revenue Service. The statistical data revealed that FIRS was meeting and surpassing the set CIT revenue targets. This means that since the introduction of ICT, CIT collection performance was more than 100%, as shown in Table 6.18 below.

Year	**CIT Revenue in Naira Billions**
2001	69.4
2002	89.1
2003	114.8
2004	130.8
2005	170.2
2006	246.7
2007	332.4
2008	420.6
2009	600.6
2010	666.1
2011	715.4

2012	846.6

Table 6.18 CIT collection (2001-2012)
Source: FIRS' Direct Reports Group Planning and, Reporting and Statistics Department Tax Revenue Collection from 2001 -2012

However, based on FIRS reports, the use of ICT facilitates meeting and surpassing CIT revenue collection targets; it also enhanced an increase in actual CIT revenue collection from N69.4 billion in 2001 to N846.6 billion in 2012, as graphically shown below.

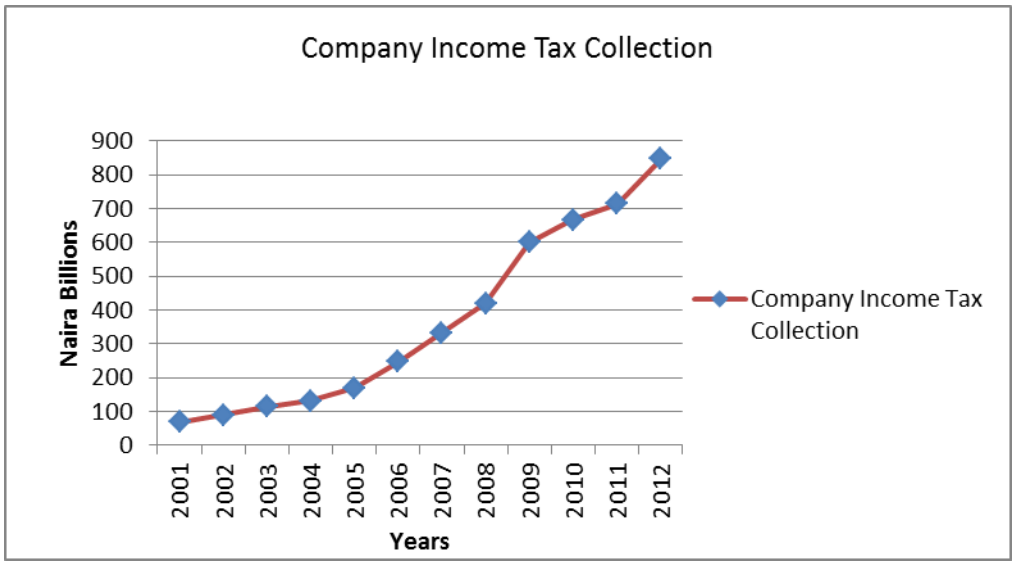

Figure 6.3 (Curve) CIT collection (2001-2012)

FIRS reports reveal that CIT revenue collection increased from N69.4 billion in 2001 to N846.6 billion in 2012. Meanwhile, other factors in the economy, like increased internal trade, reduced importation and more reliance on home products, may have caused the increase; if there is no use of ICT in CIT collection, revenue will not be reflected in collections. The fact that CIT revenue has increased proves that ICT use enhances CIT collection.

Discussion

These findings suggest that the level of effectiveness of realized revenue collection increased with the increased the use of ICT in company income tax collection. Confirming the above

findings, the Executive Chairman of the Federal Inland Revenue Services and Chairman, Joint Tax Board Omoigui-Okauru spoke at the 2nd Edo State Technology Day on 8th July 2011, on the theme "Repositioning Edo State Using Technology", and stated that "tax collection in the country increased from N1.194 trillion in 2004 to N2.839 trillion in 2010 through the application of Information Communication Technology; the figure was an increase of between 337 and 247 per cent in the period and registered taxpayers in FIRS data base had increased to over 700,000 from less than 100,000, in 2004".

The results corroborate the findings of Zhou and Madhikeni (2013) and Muthama (2013), who reported that automated systems have been proven to be capable of introducing massive efficiencies to business processes that can result in increased revenue collections. The finding of this study is very similar to that of Chatama (2013), who found that in 1996, the Tanzania Revenue Authority used to collect US$ 25 million per month, but the collection rose to US$300 million per month in 2007; iTaX also enhanced efficiency, data security and even transparency of processes, the release of staff from unproductive work, and the possibility of electronic transfer and exchange of data with government and nongovernmental institutions (e-government). Through iTAX, there is promotion of equity, communication with taxpayers, preventive impact on corruption and bribery and impediments to tax avoidance and tax evasion. According to Kitillya (2012), "the Tanzania Revenue Authority (TRA) has been able to increase revenue collections, improve voluntary compliance, minimize collection costs, widen the tax base, and control evasion and fraud. In absolute terms, tax revenue collected by the TRA increased from an equivalent of US$1,575 million in 2004/05 to the current levels of US$3,185 million in 2010/11 while revenue to GDP ratio increased from 10.8% to 15.3% respectively". In addition, Azmi and Kamarulzaman (2010) found that various research studies such as Hoffman *et al.* (1995), Alba *et al.* (1997) and Peterson *et al.* (1997) have

discussed several benefits of online systems to consumers, among them are that the internet allows consumers to conduct transactions with a few mouse clicks, and this convenience can serve as a key driver of e-tax adoption. Additionally, online systems provide many aspects of "convenience" to taxpayers (that is time to file, place to conduct the filing, ease-of-use, information searching and online transactions) at a degree that is not available through traditional channels. Other scholars, such as Turner and Apelt (2004), posit that the concept of electronic tax payment originated in the USA, although other technology-enabled nations have moved quickly to utilize the modality, including Australia, Canada, England, Germany, India, Singapore and Taiwan. Centeno *et al.* (2004) revealed that online e-tax payment systems help governments cope efficiently with tax losses and tax evasion on the part of their citizens, which tends to increase tax revenues; at the same time, users of the system also benefit in terms of time and cost saving, resulting in simpler and easier tax payment processes. Mugisha (2001) identifies that the use of ICT enhances timely access to accurate and relevant information, which is a prerequisite for good planning, programming, implementation, as well as monitoring and evaluation. This forms the key component in development. Some scholars emphasize that the spread of ICT use in various sectors brings new opportunities for economic growth and development. New organisation design, new markets, new products and improved services are being created, which bring with them new sources of revenue. Crede (1998) reveals two facts: first, ICT has the capacity to increase productivity and create more cost effective output with the same or less inputs, and development of ICT applications for business use alters the approach to organisations' functions and eventually improves their services and products. Due to the complexity of large taxpayers, they present a major tax compliance risk to revenue bodies, considering their critical role in revenue collection; it is the responsibility of the tax administration to be ahead of large taxpayers in technology in order to curb cheating (Suluo, 2003). Also ascertained by

a previous study conducted by Sohne (2003) and cited in Muthama (2013), was that automated systems have been proven to be capable of introducing massive efficiencies to business processes that result in increased revenue. Hilton (2008) found that a methodology to measure the technological impact of the fiscal administration can demonstrate the relationship between the use of technology and the collection of taxes and revenues; since information such as ICTs are essential to optimise the collection of tax and revenue, it could be noteworthy to quantify the effects of ICTs on fiscal practices. The use of ICT in CIT collection has a positive impact on the cost of tax administration, automation and effectiveness of revenue collection and verifying that the correct amount of tax has been paid is an important component of improving compliance. According to Muthama (2013), revenue system modernization improves the ability of an organisation to collect more revenue with minimal costs, and automation has a positive impact on the cost of tax administration, and effectiveness of revenue collection. The interviewees of this study stated that online tax payment is fast, convenient and easy to use, and there is no need to go to the tax office or bank branch to pay taxes. Director 3 said further that e-tax system processes all refund requests and administers the credits generated during this process: the Federal Inland Revenue Service contained leakages in tax collection, in which the manual collection system allowed banks to play God with taxpayers' deposits and also gave staff access to taxpayers' cash and cheques. Then, the interviewer also said that it was common to find some corrupt Federal Inland Revenue Service staff colluding with banks to defraud the Federal Inland Revenue Service and the nation. This is similar to Director 2's statement that "automation of collection has ensured that tax collected daily by the Federal Inland Revenue Service from all parts of the country is swept automatically, electronically, into the Central Bank of Nigeria (CBN) through our collecting banks. This has stopped incidents of trapped funds in banks, eliminated diversion of cheques by some bad staff and reduced fraud in the collection system.

Members of staff no longer handle taxpayers' cash or cheques.Today, taxpayers pay into designated accounts. Automation gives authorized Federal Government officials, real time, and almost minute-by-minute reports on taxes collected by FIRS. Cases of trapped or unremitted funds, running to about N12 billion were rampant when the Federal Inland Revenue Service operated the manual system. Federal Inland Revenue Service offices are also being computerized, in preparation for an automated and fully Integrated Tax Administration System, (ITAS)". E-tax is an important e-government application that has become increasingly common all over the world. Beyond the usual benefits of e-government, such as reducing transaction costs and providing convenience, electronic tax filing systems are particularly useful for governments to avoid tax evasion and errors (Lee *et al*., 2008). In another related study, Manly *et al.* (2005) stated, "Electronic tax filing systems are an e-government application that is being utilized with increasing frequency, [and] such systems are particularly favourable for governments because they avoid many of the mistakes taxpayers make in manual filings, and they help to prevent tax evasion by data matching". Chatama (2013) and the IRS (2004), as cited in Schaupp and Carter (2009), found that the mission statement for e-tax filing and payment systems are to ease the taxpayer burden and increase compliance through innovative e-government solutions with the use of technology. The fact that revenue has increased proves that ICT use enhances CIT collection. The findings of this study are also related to Mgimwa (2013), who noted that the electronic revenue collection system, popularly known as Max – Malipo, implemented through mobile phones, bank services and services provided by dozens of tax service centres, has increased compliance levels among taxpayers by 27 per cent a month. Making an official statement in Parliament on 7 September 2013, the Minister for Finance and Economic Affairs said that online tax payments go straight to the Tanzania Revenue Authority (TRA). The findings of this study show that the use of ICT in CIT collection presents many benefits for revenue

authorities, including faster processing of information and data, requiring fewer resources and reducing the cost of collection for revenue authorities. Using ICT in CIT collection has increased services to taxpayers, such as provision of e-services to enable the process of filing returns and making tax payment simpler, faster and easier to understand. "The ICT has increased CIT revenue generation because of a decrease in human error, making it possible to pay anytime and almost anywhere; it also builds capacity by training and retraining FIRS personnel" (Omoigui-Okauru, 2011). The e-tax system checks for errors and necessary information, increasing the accuracy of returns and reducing the need for correspondence with the Internal Revenue Service (IRS) to clarify errors or omissions; additionally, errors and fraud detection have been significantly improved by automation (Booz, 2005). Various scholars provide alternative views as to why private and public institutions adopt ICT. Katundu (1998) identified that private and public institutions adopted ICT for reasons such as the speedy generation, storage, retrieval and dissemination of information, which is almost impossible through manual means. Hill (1999:81) argues that ICT expands the extent to which one can communicate information in terms of the frequency, amount of information to be communicated and distance over which communication occurs. However, Chatama (2013) and Carter and Belanger (2005) found that other factors in the economy such as increased internal trade, reduced importation and more reliance on home products may have caused the increase in revenue collection; no matter how much the economy has prospered, if there is no e-tax system, the revenue will not be reflected in collections. Hilton (2008) found that the collection of taxes and revenues, besides ICTs, may vary depending upon other key factors such as political rearrangement, the economic situation and legal issues; incidents like a transitory reorganisation in the internal revenue service structure, an alteration in the country's economic condition, and a reform in the fiscal legislation can substantially modify

the amount of tax and revenue collected. Tax compliance and compliance cost are analysed and discussed next.

6.5 Proposition II: The use of ICT has an impact on tax compliance and the cost incurred to enforce company income tax compliance.

	5 Strongly agree	4 Agree	3 Neither agree nor disagree	2 Disagree	1 Strongly disagree	WAS
B6: ICT enhances voluntary compliance	107 (46.5%)	56 (24.3%)	33 (14.3%)	30 (13%)	4 (1.7%)	922/230 = 4.01
B7: Using ICT to collect tax revenue (CIT) reduces costs of running and maintaining revenue agencies	127 (55.2%)	80 (34.8%)	9 (3.9%)	12 (5.2%)	2 (0.9%)	1008/230 = 4.38
B8: The use of ICT in CIT collections reduces the costs of legislative enactment relating to the tax system	114 (49.6%)	72 (31.3%)	32 (13.9%)	10 (4.3%)	2 (0.9%)	976/230 = 4.24
B9: ICT in CIT collections ensures a greater level of compliance and tax revenue increase	115 (50%)	76 (33%)	22 (9.6%)	16 (7%)	1 (0.4%)	978/230 = 4.25
B10: ICT enables quick detection for non-payment of CIT	154 (67%)	63 (27.4%)	8 (3.5%)	4 (1.7%)	1 (0.4%)	1055/230 = 4.59
B11: Using ICT in the collection of CIT increases the overall revenue collection	132 (57.4%)	80 (34.8%)	10 (4.3%)	8 (3.5%)	0 (0%)	1026/230 = 4.46
B12: The e-tax system reduces processing time and reasonably shortened responding to taxpayers' queries	143 (62.2%)	73 (31.7%)	11 (4.8%)	3 (1.3%)	0 (0%)	1046/230 = 4.55

Table 6.19 Calculation of WAS for questions B6, B7, B8, B9, B10, B11 and B12
Source: Field survey, 2013

The strongly agreed and agreed categories, the majority (70.8%) of respondents in Table 6.19 above shown that ICT enhances voluntary compliance while 29.2% of the respondents, disagreed or strongly disagreed categories that ICT enhances voluntary compliance of company income tax collection. It can be seen that 90% of the respondents strongly agreed and agreed categories also that ICT enables quick detection for non-payment of company income tax. However, 1.7% and 0.4% respectively strongly disagreed with voluntary compliance and quick detection of no payment of company income tax, as shown in the Table 6.19 above. The analysis in Table 6.19 shows that the calculated WAS ranges between 4.01 and 4.59. This shows a good level of agreement among respondents concerning the use of ICT in company income tax collection and that it enhances voluntary compliance and reduces compliance costs. The e-tax system is one of the strategies to facilitate tax compliance and to achieve administrative and compliance efficiency; it also facilities cost effectiveness strategies such as paperless, storage, reducing processing time and a reasonably shortened response to taxpayers' queries.

This result is strengthened by Spearman's rho correlation in Table 6.20 below, which shows the relationship between tax compliance and ICT usage in the collection of company income tax. Questionnaire questions B6 to B12 addressed the impact of ICT in company income tax collection on tax compliance and compliance cost. The results from the respondents are summarised from Spearman's correlations.

ICT enhances voluntary compliance	Correlation Coefficient	1.000	.531**	.556**	.554**	.451**	.442**	.444**
	Sig. (1-tailed)		.000	.000	.000	.000	.000	.000
	N	230	230	230	230	230	230	230
Using ICT to collect tax revenue (CIT)	Correlation Coefficient	.531**	1.000	.424**	.360**	.362**	.382**	.468**
	Sig. (1-tailed)	.000		.000	.000	.000	.000	.000

reduces the costs of running and maintaining revenue agencies	N	230	230	230	230	230	230	230
The use of ICT in CIT collections reduces the costs of legislative enactment relating to the tax system	Correlation Coefficient	.556**	.424**	1.000	.480**	.422**	.430**	.408**
	Sig. (1-tailed)	.000	.000		.000	.000	.000	.000
	N	230	230	230	230	230	230	230
ICT in CIT collections ensures a greater level of compliance and tax revenue increase	Correlation Coefficient	.554**	.360**	.480**	1.000	.310**	.477**	.301**
	Sig. (1-tailed)	.000	.000	.000		.000	.000	.000
	N	230	230	230	230	230	230	230
ICT enables quick detection for non-payment of CIT	Correlation Coefficient	.451**	.362**	.422**	.310**	1.000	.399**	.390**
	Sig. (1-tailed)	.000	.000	.000	.000		.000	.000
	N	230	230	230	230	230	230	230
The e-tax system reduces processing time and reasonably shortened response times to taxpayers' queries	Correlation Coefficient	.444**	.468**	.408**	.301**	.390**	.341**	1.000
	Sig. (1-tailed)	.000	.000	.000	.000	.000	.000	
	N	230	230	230	230	230	230	230

**. Correlation is significant at the 0.01 level (1-tailed).

Table 6.20 Spearman's rho Correlations
Source: Field Survey, 2013

The above table gives the relationship between different sets of variables; the first variable is voluntary compliance in relation to utilization of ICT in company income tax collection, the finding shows a moderate degree of positive correlation between voluntary compliance and utilization of ICT in company income tax collection as shown by 0.531. There was a moderate degree of positive correlation positive relationship between using ICT to collect tax revenue (CIT) that reduces the costs of running and maintaining revenue agencies and utilization of ICT in company income tax collection as shown by 0.424; the use of ICT in CIT collections reduces the costs of legislative enactment relating to the tax system as shown by 0.480; ICT in CIT collections ensures a greater level of compliance and tax revenue increase as shown by 0.310 in Table 6.20 above which is having a low degree of positive correlation. The findings reveal that there is correlation between tax compliance and ICT usage in the collection of company income tax. The basis of this statement is that all the factors affecting tax compliance and ICT usage in the collection of company income tax have significance levels below 0.01, reflecting significant values of all the variables. In addition to this, it is also noted that the Pearson correlation coefficient of all factors affecting tax compliance and ICT usage in the collection of company income tax are positive. This reflects that there is a positive correlation between ICT usage in the collection of company income tax and tax compliance; thus, as tax compliance increases, ICT usage in the collection of company income will also increase. The evidence suggests a positive correlation of the use of ICT in CIT collection and tax compliance, compliance cost and effectiveness of revenue collection. In the same line of argument, work conducted by Isaac and Lilian (2010) found that the adoption of automation in URA was aimed at achieving efficiency and increased revenue, and the evidence suggests a positive correlation of automation and the cost of tax administration, automation and effectiveness of revenue collection. However, automation was negatively and significantly related to tax clearance time. In relation to the findings of this

study, Muwonge (2011) finds that "the electronic tax filing system has improved tax compliance, as it is easy for taxpayers to assess their tax obligation accurately; increasing tax compliance and revenue collection in URA and also found that user satisfaction has a positive relationship with users' perceived net benefits". This is in line with past findings by Roldan and Leal (2003), Ebrahim and Irani (2005), and Ming *et al.* (2005), all cited in Islam *et al.* (2011). The view of interviewees on CIT compliance and costs will be discussed next.

6.5.1 The interview results on CIT collection compliance and cost incurred in enforcing company income tax compliance

The use of ICT has enabled the Federal Inland Revenue Service to provide efficient and effective services to taxpayers. It enhances effective tax administration through control, monitoring of taxpayer activities and taxpayer's compliance, reduced operational costs and efficient utilisation of Federal Inland Revenue Service resources, with improved security of information and fewer complaints from taxpayers (companies). This means that there is a lot of service improvement to companies as taxpayers such as online payment services, CIT information dissemination and minimisation of the taxpayers and Federal Inland Revenue Service's staff contact. The use of ICT in CIT collection saves money, which was supported by the director's (D3) views below:

> *"Okay! E-tax payment system is easy and transparent process, anytime anywhere service, reduces paper work. It reduces the need for direct interaction with the tax officials thereby reducing corruption. Therefore, ICT initiative [leads to a] reduction of unnecessary expenditure for the FIRS such as[the] cost of running and maintaining revenue agencies, running expenses of tax collection, material cost of processing, cost of legislative enactment relating to the tax system and processing cost of responding to taxpayers queries"*

Director (D3)

Taxpayers do not need to visit commercial tax offices. Instant acknowledgement, instant e-tax and no service charges usually charged by banks for issuing demand drafts, cheque clearance etc., easy clearance at check posts due to advance e-declaration of goods in shipment are available. System generated annual returns based on monthly returns filed are accessible. One of the interviewees (M) stated that the introduction of the taxpayer identification number (TIN) has also given the service a significant range and businesses now find it extremely difficult to hide, with banks fully adopting the "No TIN, No Account" policy. Indeed, individuals will find it hard to avoid the tax man's radar. The manager (M) stated the following:

> *"The FIRS mandate as TA, is to assess, collect and account for taxes. You obviously cannot achieve the point of assessing taxpayers if you do not know who they are and what they do to earn income. Therefore, the first thing to do is to identify all taxpayers and issue them a TIN. The taxpayer can access a website using the TIN and electronic signature, select the option wanted such as Filing Return, and the system will validate the operation automatically. The Joint Tax Board (JTB) introduced the Unique Taxpayer Identification Numbering System (UTIN) that is unique to a particular taxpayer. FIRS has issued a TIN (Tax Identification Number) as well as [a] Tax Clearance Certificate (TCC) to deserving taxpayers. No TIN, No business agenda. FIRS maintains its ability to secure access to reliable and verifiable information in order to identify taxpayers and obtain the information necessary to administer the tax system"*

Manager (M)

A robust taxpayer profile/database is all a tax authority requires to carry out its statutory functions on CIT collections, and it will assist revenue authorities in forecasting annual collectible revenue (either in taxes alone or global revenue) from year to year, thereby helping to plan the economy based on these facts.

Discussion

Results shown in Table 6.20 indicate that taxpayers are more compliant with the tax laws and procedures of the tax system. This indicates that there is a fuller understanding of the tax system and hence improvement in tax compliance. Based on the above analysis, this study's findings also reveal that the use of ICT in CIT collection prevents tax evasion, brings increased CIT compliance, prevents corrupt practices of tax officials and minimises the issue of diversion of government funds to individual accounts. This finding corroborates Muwonge's (2011) findings that the e-tax filing and payment systems had improved tax compliance; it also enables taxpayers to assess their tax obligation accurately and file their returns on time, helps ease the work of URA staff and also to a small extent led to an increase in tax collection in URA. Previous studies conducted by Chatama (2013), Fu *et al.* (2006), Tapscott (1996), Amit and Zott (2001) and Malhotra (2001) also found that electronic tax filing and payment systems of income tax have the potential to improve the overall process of tax filing and payment for the individuals, while at the same time reducing the costs for both taxpayers and tax collection agencies. The findings in Table 6.20 above are similar to previous studies conducted by various scholars such as Hanefah, (2007), Ibrahim and Pope (2011), Lai (2005), Palil (2010), Niemirowski and Wearing (2003), Kasipillan and Jabber (2006), and Asante and Baba (2011), which confirmed that e-tax systems lead to lower compliance costs of taxpayers due to the paperless environment They also enable the tax authority to supervise formal company income tax compliance with taxpayer obligations, deali with the filing of returns, payment and use of tax credits, processes for the issuance of tax compliance and clearance certificates, setting off taxes and analysing returns. However, Kasipillan and Jabber (2006) confirmed that "gender, academic qualifications and the person preparing tax returns were statistically significant determinants of a non-compliant attitude;

female, educated, older, and married self-employed people are less tax non-compliant; therefore, more taxes could be collected from these groups than their counterparts". Richardson and Sawyer (2001) concluded that married taxpayers are more compliant than unmarried ones.

The fact that revenue has increased proved that better e-tax administration was in place and this is only possible with the use of ICT. The introduction of ICT in CIT collections has shortened the lengthy cumbersome manual procedures; ICT usage has minimised errors in return processing and in assessment; processing time and responding to taxpayers queries have been reasonably shortened; all computers at FIRS are connected through a Local Area Network; and with the introduction of ICT, the revenue collection performance was in most cases more than 100%. In relation to the findings of this study, Hung (2006) found that the online tax filing and payment system allows Taiwan's taxpayers to submit tax returns using an online ID and electronic transaction authentication mechanisms; and provides various reports on income tax withholding (exemption) data, online filing and payment of business tax, and online payment of taxes owed following a tax audit.

6.6 Proposition III: The use of ICT has increased company income tax collection information dissemination

This question aims to show that ICT has improved information quality.

	5 Strongly agree	**4 Agree**	**3 Neither agree nor disagree**	**2 Disagree**	**1 Strongly disagree**	**WAS**
B13: ICT enhances companies' (taxpayers) access to tax	128	85	14	2	1	1027/230

related information and instructions, which makes it easier and more convenient for taxpayers to abide by revenue laws.	(55.6%)	(37%)	(6.1%)	(0.9%)	(0.4%)	= 4.47
B15: The centralization of the e-tax revenue collection system allows for increased and timely access to information that would otherwise take too much time and effort to generate from the available hard copy records.	133 (57.8%)	89 (38.7%)	5 (2.2%)	2 (0.9%)	1 (0.4%)	1041/230 = 4.53
B16: ICT improves service standards (provides communication facilities and access to information to assist taxpayers and to save response times	133 (57.8%)	81 (35.3%)	14 (6.1%)	1 (0.4%)	1 (0.4%)	1034/230 = 4.50

Table 6.21 Calculation of WAS for B13, B15 and B16
Source: Field survey, 2013

The calculated WAS on a Likert scale of five for questions B13, B15 and B16 are shown in Table 6.21. However, question B13 WAS's of 4.74 was very strongly agreed, also questions

B15 and B16 have similar WAS's that range between 4.50 and 4.53 that were strongly agreed. These findings complement the Abdalla (2006) study, which finds that ICT has emerged as an intermediary in assisting successful communication between stakeholders (Abdalla, 2006). However, accessibility refers to the ease of attaining information and services offered through an e-government portal (Criado and Ramilo, 2003).

This result supports the results obtained using the Spearman correlation regarding the use of ICT and dissemination of company income tax information, as shown in Table 6.22 below.

ICT enhances companies' (taxpayers) access to tax related information and instructions, which make it easier and more convenient for taxpayers to abide by revenue laws.	Correlation Coefficient	1.000	.340**	.211**	.291**
	Sig. (1-tailed)		.000	.001	.000
	N	230	230	230	230
The introduction of an e-tax collection system has increased CIT revenue.	Correlation Coefficient	.340**	1.000	.379**	.444**
	Sig. (1-tailed)	.000		.000	.000
	N	230	230	230	230
The centralization of an e-tax revenue collection system allows for increased and timely access to information that would otherwise take too much time and effort to generate from the available hard copy records.	Correlation Coefficient	.211**	.379**	1.000	.290**
	Sig. (1-tailed)	.001	.000		.000
	N	230	230	230	230
ICT improves service standards (provides communication facilities and access to information) to assist taxpayers and to save response times.	Correlation Coefficient	.291**	.444**	.290**	1.000
	Sig. (1-tailed)	.000	.000	.000	
	N	230	230	230	230

**. Correlation is significant at the 0.01 level (1-tailed).

Table 6.22 Spearman Correlation
Source: Field Survey, 2013

From Table 6.22 above, it is found that there is correlation between the use of ICT and dissemination of company income tax information. The basis of this statement is that significance levels of all the factors affecting dissemination of CIT information and ICT usage in the collection of company income tax have significance levels below 0.01, reflecting significant values of all the variables. In addition to this, it is also noted that the Pearson correlation coefficient of all the factors affecting of dissemination of CIT information and the ICT usage in the collection of company income tax are positive. This reflects that there is a positive correlation between the ICT usage in the collection of company income tax and tax compliance; thus, as tax compliance increases, ICT usage in the collection of company income tax will also increase.

This follows the views of interviewees, as discussed in section 5.4.2.

6.6.1 Interview results on dissemination of information with the use of ICT in CIT collection

ICT improves the provisioning of information by providing easy links to companies, and taxpayers have a direct link to the database of FIRS through using their TIN. There is dissemination of information with the use of ICT in CIT collection. The interviewees confirmed that taxpayers have access to the information and instructions that they need for using the electronic tax payment system. The taxpayers also obtain information online such as tax rate, calculation of tax payable yearly and all other related information. Director (D3) stated the following:

> *"It is simple using the taxpayer's TIN. Taxpayers can go to FIRS' website (firs.gov.ng) and check the information such as tax rate, calculation of tax paid yearly on the FIRS' website."*

Director (D3)

The director (D3) explained further that the use of ICT in CIT collection makes taxpayers aware of current enforcement efforts, such as the audit and penalty regime as effective tools in reducing tax evasion. The director's (D3) views are stated below:

> *"The use of ICT in CIT collections provides relevant and accurate information which makes it easier and more convenient for taxpayers to abide by revenue laws. The ICT in CIT collections offers immediate connectivity – voice, data, visual – improving efficiency, transparency and accuracy. The ICT in CIT collections provides tax payment calendar highlights, mainly due dates. [The] e-tax system provides electronic advertising to disseminate information to the taxpayers in addition to participation at exhibitions, print pamphlets, seminars and workshops and weekly publishing articles*".
>
> Director (D3)

The interviewee (D3) explained that the goals of the use of ICT in CIT collection are to facilitate efficiency and effectiveness of CIT collection operations, thereby meeting the target of revenue generation; The use of ICT in CIT is not limited to cost reduction and efficiency gains, it also promotes: quality of service delivery to taxpayers, transparency, anticorruption and accountability, increasing the capacity of FIRS, network and community creation, improving the quality of decision making, and promoting the use of IT among taxpayers and tax practitioners.

Discussion

Evidence shows the increased availability of public information, measured by the amount of information disseminated from the tax authority to company income taxpayers through radio and websites as well as the number of information requests submitted by taxpayers and queries answered by tax officials. This study also shows that the use of ICT in CIT collection facilitates the reporting of corruption and the accessing of official information, monitoring

the efficiency and integrity of social services and of a country's political life and making financial information more transparent. By facilitating the flow of information between government institutions, between government and citizens, as well as among citizens, new technologies can promote transparency, accountability and civic participation (Chene, 2012). In the same line of works conducted by Kumar *et al.* (2007) and Vasconcellos and Rua (2005), it was found that the "e-tax system has opened a new means of communication for individuals and businesses and provided opportunities to communicate and get information in an entirely different way, and it has made the accessibility of information and services in ways that could not have been conceived of just twenty years ago; it will let the taxpayer fulfil the obligation at anytime and anywhere; and the citizen does not have to go to the Inland Revenue Board to pay their taxes". Also ascertained by a previous study conducted by Hu *et al.* (2009) was the ease with which a citizen can use the various features of the system and access all relevant tax publication forms and instructions which together are critical factors in the citizen developing a positive assessment of e-tax. One of the interviewees stated that the instruction provisions for utilising ICT in CIT collection are clear and understandable. Having e-tax at the centre of disseminating tax information at all levels (global, regional, national and local) is a way of tapping unrealised potential for high quality e-tax (Okutta, 2007). This result also confirms what Chatfield (2009) identified, that ICT has reduced company income tax collection costs internally and reduced compliance costs by providing news, convenience and faster and improved public services. The assertions of Lee *et al.* (2011) and Chatfield (2009) were supported; as the study confirms that the use of ICT in CIT collection has improved information flow between the tax authority and company income taxpayers. At the same time, ICT connects people within the rural areas, showing that illiteracy of rural communities may no longer be an excuse to avoid payment of taxes. A previous study with similar conclusions states, "ICT use facilitates seamless sharing of

information across company income tax collectors" (Maumbe *et al.*, 2008). In another supportive study, Fu *et al*. (2006) defines e-filing as an important application that automates tax-related processes in an attempt to improve efficiency in assessing and collecting tax information. Most of these studies used simple quantitative tools to measure tax information dissemination, instead of a generalised and expanded treatment of both qualitative and quantitative techniques; the current study used both qualitative and quantitative techniques. ICT in CIT collection has reduced communication costs. Timely access to information results in plugging revenue loss and improved efficiency and performance in revenue collections. Other factors in the economy, like increased internal trade, reduced importation and more reliance on home products, may have caused the increase in revenue collection; it is worth remembering that no matter how much the economy has prospered, unless there is good e-tax administration there will be no increase in revenue collection. In the same line of argument, a study conducted by Taylor (2003) found that the government's use of information technologies in their services will lead to better delivery of government services, more efficient management, less corruption, more transparency, greater convenience, increased revenue and reduced costs.

6.7 Proposition IV: The use of ICT has improved transparency

	5 Strongly agree	**4 Agree**	**3 Neither agree nor disagree**	**2 Disagree**	**1 Strongly disagree**	**WAS**
B17: ICT allows automatic production of tax reports and feedback required for control and risk management purposes.	136 (59.1%)	87 (37.9%)	4 (1.7%)	2 (0.9%)	1 (0.4%)	1045/230 = 4.54

B18: The use of ICT reduces the need for direct interaction with the tax officials thereby reducing corruption.	126 (54.8%)	87 (37.8%)	13 (5.7%)	3 (1.3%)	1 (0.4%)	1024/230 = 4.52
B19: ICT allows taxpayers to make their complaints and provide information about any tax official taking bribes.	129 (56.1%)	74 (32.2%)	22 (9.5%)	3 (1.3%)	2 (0.9%)	1015/230 = 4.41
B20: ICT makes reconciliation of CIT returns easy.	146 (63.5%)	76 (33%)	8 (3.5%)	0	0	1058/230 = 4.6

Table 6.23 Calculation of WAS for questions B17, B18, B19 and B20
Source: Field survey, 2013

The calculated WAS for B17 (ICT allows automatic production of tax reports and feedback required for control and risk management purposes) and B18 (The use of ICT reduces the need for direct interaction with the tax officials, thereby reducing corruption) are very close (4.54 and 4.52). ICT helps to increase the transparency of decision-making processes. The use of ICT in CIT collection offers opportunities for citizens to directly participate in decision-making, by allowing them to provide their own ideas and suggestions in forums and online communities. These findings were also established by previous studies conducted by Booz *et al*. (2007), Greenwood *et al.* (2008) and Goch (2008). Taxpayers are highly motivated to make complaints and provide necessary information to the Federal Inland Revenue Service about any tax officer taking bribes, and the e-tax payment system results in more effective revenue collection and less corruption due to transparency.

Using the Spearman correlation to support the above findings, Table 6.24 below confirms that ICT has increased the transparency of CIT collection.

ICT allows automatic production of tax reports and feedback required for control and risk management purposes.	Correlation Coefficient	1.000	.408**	.506**	.493**
	Sig. (1-tailed)		.000	.000	.000
	N	230	230	230	230
The use of ICT reduces the need for direct interaction with the tax officials, thereby reducing corruption.	Correlation Coefficient	.408**	1.000	.480**	.425**
	Sig. (1-tailed)	.000		.000	.000
	N	230	230	230	230
ICT allows taxpayers to make their complaints and provide information about any tax official taking bribes.	Correlation Coefficient	.506**	.480**	1.000	.450**
	Sig. (1-tailed)	.000	.000		.000
	N	230	230	230	230
ICT makes reconciliation of CIT returns easy.	Correlation Coefficient	.493**	.425**	.450**	1.000
	Sig. (1-tailed)	.000	.000	.000	
	N	230	230	230	230

**. Correlation is significant at the 0.01 level (1-tailed).

Table 6.24 Spearman Correlation
Source: Field Survey, 2013

Table 6.24 above shows the correlation, and the results show that the use of ICT in CIT collection is significantly and positively correlated to the transparency of CIT collection (r = 0.408, 0.506, and 0.493, Sig. < 0.01). This implies that the transparency of CIT collection increases with increasing ICT in CIT collection. It further implied that using ICT in CIT collection leads to automatic production of tax reports, feedback and easy reconciliation. Section 6.7.1 discusses the interview findings.

6.7.1 The Interview Results on ICT and Transparency of CIT Collection

In line with the views of the interviewees, mostly D1, D3 and M explained that efficient revenue management entails generating the maximum level of revenue without leakages and speedy delivery of quality services to taxpayers, with high levels of transparency and

accountability. However, to achieve this, the Federal Inland Revenue Service has to be committed to operating a transparent and efficient tax system. Taxpayers can pay their taxes electronically using a GSM phone or computer in the comfort of their office or home. This enables the Federal Inland Revenue Service to deliver quality and efficient services to taxpayers for voluntary compliance. Payment could be made through the bank or phone anywhere with a TIN. Manager (M) stated:

> *"Leakages blocked, reduced administrative and collection costs; decreased need for personnel; time savings for taxpayers due to fast processing; transparency in assessment, collection, and related processes; reduced tax compliance costs; reduced communication costs; and timely access to information which results into plugging all revenue loss and improved efficiency and performance in revenue collections"*
>
> Manager (M)

To confirm the above, Belanger and Carter's (2008) study explained that the achievement of effective e-government involves the employment of the right information system in order to improve transparency and accountability towards its citizens. The interviewee (M) confirmed that there is ICT infrastructure in all the states of the federation.

Discussion

From Table 6.24 above, there is confirmation that ICT also has the potential to improve interaction between tax authority and taxpayers, fostering transparency and accountability in administration of company income tax collections in Nigeria. "Better accountability and improved transparency were the identified characteristics of good governance, and the latter became the condition *sine qua non* for the rich states and international agencies to supply aid to developing states" (UN, 2002, 2003; UNDP, 2003). This is very similar to Demchak *et al.* (2000), who identified that transparency involves the organisation of information on e-government such as the depth of access it allows, the depth of knowledge about processes and

the level of attention to citizen response it provides. Transparency in functioning can lead to increased trustworthiness in e-government. Several scholars support these findings, such as Mugume (2006), who found that "the ICT delivery of a wider range of tax authority/taxpayer-oriented services has reduced bureaucratic delays, made administrative procedures more transparent and visible, used tax authority human resources more efficiently and contributed to spread IT literacy among taxpayers". Gant and Gant (2002) found that the use of ICTs has introduced transparency in company income tax collection and strengthens the tax authority's relationship with taxpayers. These findings complement Heeks (1999), who identified "ICTs as tools that aid in the communication between people by capturing, processing, storing and communicating information electronically, as well as services and applications that assist in the management of information" (Heeks, 1999). Access to more and complete information would improve risk management across the tax system, potentially reducing the burden on the honest and making life more difficult for the dishonest. This indicates a full understanding of the use of ICT in CIT collection and hence improvement in tax compliance (Turgut, 2007). Fraud or sharp practices inherent in manual transactions processing is eliminated in a fully automated revenue administration system, and this leads to improvement in the revenue base of the government (James and Nobes, 2012). These scholars supported the above analysis that the use of ICT in CIT collection has improved transparency. Using ICT to compile a database of information enables revenue authorities to identify and address non-compliant taxpayers, and it also increases transparency. Therefore, it is a powerful tool in tackling corruption and reducing the opportunities for bribery.

6.8 Proposition V: ICT makes a potential contribution to the effectiveness and efficiency of company income tax collection

This proposition sets out to identify the ways in which ICT can further enhance effectiveness and efficiency in company income tax collection in Nigeria. One way multinomial logistic regression (MLR) was performed with *B2: Using ICT facilitates the company income tax collection process* as the dependent variable and B21 – B28 as the predictor variables. MLR is a model that is used to predict the probabilities of the different possible outcomes of a categorically distributed dependent variable, given a set of independent variables. One way multinomial logistic regression does not make any assumptions of normality, linearity, and homogeneity of variance for the independent variables. It is used to predict the probability that the dependent variable is a member of a certain category based on multiple independent variables. Predicting the probability of different possible outcomes of the dependent variable is commonly used for choice modelling and identifying variables that play prominent roles in the prediction of the outcome of interest. It allows each category of the dependent variable to be compared to a reference category.

The overall test of relationships among the independent variables and groups defined by the dependent is based on the reduction in the likelihood values for a model which does not contain any independent variables and a model that contains dependent variables. This difference in likelihood follows a chi-square distribution and is referred to as the model chi-square. The significance test for the final model chi-square (after the independent variables have been added) is the statistical evidence of the presence of a relationship between the dependent variable and the combination of the independent variables. In this study, the presence of a relationship between the dependent variable (B2) and combination of

independent variables (B21-B28) is based on the statistical significance of the final model chi-square in the SPSS, as shown on Table 6.26: Model Fitting Information.

The predictor variable, *using ICT facilitates the CIT collection process*, has significance < 0.05, as stated in Table 6.25 below.

		N	Marginal Percentage
B2: Using ICT facilitates the company income tax collection process	Strongly Agree	141	62.1%
	Agree	79	34.8%
	Neither Agree nor Disagree	3	1.3%
	Disagree	1	.4%
	Strongly Disagree	3	1.3%
B21: The ICT infrastructure and facilities are accessible to all members of staff	Strongly Agree	107	47.1%
	Agree	53	23.3%
	Neither Agree nor Disagree	22	9.7%
	Disagree	41	18.1%
	Strongly Disagree	4	1.8%
B22: All members of staff in FIRS are trained and educated on the e-tax filing and payments system	Strongly Agree	106	46.7%
	Agree	55	24.2%
	Neither Agree nor Disagree	21	9.3%
	Disagree	40	17.6%
	Strongly Disagree	5	2.2%
B23: The e-tax system has enabled FIRS staff to handle more taxpayers in a given period compared to manual system	Strongly Agree	135	59.5%
	Agree	75	33.0%
	Neither Agree nor Disagree	10	4.4%
	Disagree	6	2.6%
	Strongly	1	.4%

	Disagree		
B24: Ongoing consultation enables staff feedback on how the e-tax system should actually function and operate	Strongly Agree	110	48.5%
	Agree	97	42.7%
	Neither Agree nor Disagree	14	6.2%
	Disagree	5	2.2%
	Strongly Disagree	1	.4%
B25; There are expectations of improvement with the ICT in CIT collections in the future	Strongly Agree	139	61.2%
	Agree	80	35.2%
	Neither Agree nor Disagree	6	2.6%
	Disagree	2	.9%
B26: ICT also has the potential to improve interaction between tax authority and taxpayers, fostering transparency and accountability in administration of company income tax collections	Strongly Agree	142	62.6%
	Agree	80	35.2%
	Neither Agree nor Disagree	4	1.8%
	Disagree	1	.4%
B27: In which area do you anticipate future improvements to be implemented with regards to the e-tax system in collections of CIT?	Finance	128	56.4%
	Infrastructure	99	43.6%
B28: Do you face any challenge through the use of the e-tax system in collections of CIT as a tax officer?	Yes	46	20.3%
	No	181	79.7%
Valid		227	100.0%
Missing		3	
Total		230	
Subpopulation		139[a]	

a. The dependent variable has only one value observed in 124 (89.2%) subpopulations.
b. Predictor is B2: ICT facilitates the company income tax collection process.

Table 6.25 Case Processing Summary
Source: Field Survey, 2013

Model	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	315.110			
Final	175.832	139.279	96	.003

Table 6.26 Model Fitting Information
Source: Field Survey, 2013

In this analysis, the probability of the chi-square model (139.279) was 0.003, less than or equal to the level of significance of 0.05. Based on the result above, it could be concluded that ICT effectiveness and efficiency is a predictor of CIT collection in Nigeria. The existence of a relationship between the independent variables and the dependent variable was supported by several empirical studies. Several studies have identified ICT as a predictor of efficiency and research shows a link between customs administration efficiency and automation (Engman, 2005); however, Engman posits that the costs of implementing and maintaining operations are substantial, echoing the view advanced by Hawley (1996), as cited in Isaac and Lilian (2010). For instance, in the works of Vasudevan, (2007), Peled (2000) and Zineldin (2007), they posit that automation is an avenue to efficiency and effectiveness in terms of clearance time and cost of revenue collection.

Effect	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.
Intercept	175.832[a]	0.000	0	
B21	520.028[b]	344.197	16	.000
B22	188.284[c]	12.452	16	.712
B23	184.582[c]	8.750	16	.923

B24	183.113[c]	7.281	16	.967
B25	395.852[c]	220.021	12	.000
B26	342.548[b]	166.716	12	.000
B27	3366.820[c]	3190.989	4	0.000
B28	175.831[c]		4	

Table 6.27 Likelihood Ratio Tests
Source: Field Survey, 2013

The chi-square statistic is the difference in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model. The null hypothesis is that all parameters of that effect are 0.

a) This reduced model is equivalent to the final model because omitting the effect does not increase the degrees of freedom.

b) The log-likelihood value cannot be further increased after the maximum number of step-halving.

c) Unexpected singularities in the Hessian matrix are encountered. This indicates that either some predictor variables should be excluded or some categories should be merged.

From the above table, there is a statistically significant relationship between independent variables and the dependent variable ($0.000 < 0.05$).

The table that shows the estimation of the logit model, presented in the Appendix A, shows the following:

a) The reference category is “Strongly Agree”.

b) Floating point overflow occurred while computing this statistic. Its value is therefore set to system missing.

c) This parameter is set to zero because it is redundant.

One way multinomial logit provides a set of coefficients for each of the two comparisons. These coefficients are of the highest interest for the researcher because they enhance building of equations that will help in calculating the probability of a category membership. It was assumed that a certain case will belong to the group that has the highest estimated probability. The effect of explanatory variables can be assessed for each logit model and for the model as a whole.

The unit of analysis is the Exponential (B) (Appendix A). It represents the change in the odds ratio associated with a one unit change in the predictor variable. If the value of Exponential (B) is greater than 1, then it indicates that, as the predictor increases, the odds of the outcome occurring also increase. If the Exponential (B) is less than 1, as the predictor increases, the odds of the outcome occurring decreases. Moreover, it is also found that ICT infrastructure and facilities are accessible to all members of staff and have a positive relationship with all members of staff in FIRS trained and educated on e-tax filing and payments systems. Additionally, ongoing consultation enables staff feedback on how the e-tax system should actually function and operate. The reason for this statement is that these four independent variables have significance levels less than 0.05 and the beta values are positive. Additionally, the analysis also revealed that ICT infrastructure and facilities are accessible to all members of staff who do not have a relationship with the e-tax system, and it has enabled FIRS staff to handle more taxpayers in a given period, compared to the manual system. ICT in CIT collections is also expected to improve in the future, with the potential to improve interaction between the tax authority and taxpayers. This will foster transparency and accountability in administration of company income tax collections.

Discussion

Generally, the results obtained indicated that using ICT facilitates the CIT collection process and has predicted potential contribution to the effectiveness and efficiency in CIT collection.

In the same line of argument, a study conducted by Isaac and Lilian (2010) found that automation based approaches have become an important vehicle for achieving efficiency in tax administration (UNCTAD, 2006), hence, automation impacts the efficiency of CIT collection. The findings of Isaac and Lilian (2010) revealed, based on the cross-sectional approach to investigating URA's experiences with automation, an efficient and effective tax administration. Additionally, the evidence suggests a positive correlation of automation and the cost of tax administration, and of automation and effectiveness of revenue collection

Some field evidence suggests that there are some challenges such as insufficient and inaccessible infrastructure and services (electricity, telephone, data services, financial services, technology dispersion and disparities). These could be overcome through infrastructure development, human resource development, stakeholder participation, appropriate policy and a regulatory framework. Jensen and Wohlbier (2012) found that "efficient and effective tax collection is a prerequisite for financing European welfare states, particularly at the current conjuncture, where many member states face high consolidation challenges; efforts should be increased to achieve a low tax compliance gap, while aiming at high compliance; tax administrations also have to pay due diligence to their tax collection costs and the costs businesses and individuals face when paying taxes". Furthermore, many previous studies, such as Mathieson *et al.* (2001), Oh *et al.* (2003), Luarn and Lin (2005) and Wu and Wang (2005), appraised the usefulness of this construct in order to explain users' behavioural intentions of adopting different forms of technology. Apart from behavioural intention, previous studies have also employed perceived resources as a direct predictor of

actual behaviour (Ajzen, 1991; Venkatesh and Brown, 2001). Findings from a number of technology adoption and use studies within the information systems field emphasize perceived resources (Ajzen, 1991; Taylor and Todd, 1995) as being good predictors of actual adoption or usage behaviour.

6.8.1 An interview regarding ICT makes a potential contribution to the effectiveness and efficiency of company income tax collection

The interviewees, particularly D1 and D3, explained that a lack of finance and distributive capacity are the major factors militating against technology adoption in Nigeria. All interviewees said that the greatest obstacle to wider ICT usage in Nigeria is the high cost of ICTs, and the relative burden of ICT costs is higher for informal businesses than it is for formal ones. The informal sector is a prominent characteristic of many developing countries. Nigeria, for instance, has a large informal sector, very high self-employment rates and low levels of tax collection. This is due to the lack of constant electricity and based on the fact that some ICT infrastructures are energy consuming, which in turn hinders several taxpayers from effectively utilising ICT to pay their taxes, as required.

Director (D1) explained the following:

> *Nigeria, as a developing nation with a high rate of poverty, has become a dumping ground for all sorts of old and dead computers used by the developed nations such as the United Kingdom and America in the early 90s. Problems of quality (poor quality employees at technician and craft level; inadequate educational and professionally qualified personnel) and a lack of resources are compounded by the new realities faced by the technology adoption in FIRS. The tax e-filing system has been a pilot project and not officially launched. It is expected to take-up soon.*

Director (D1)

Other respondent comments:

> *"… [We] have to depend on our privately generated power source… It is very expensive to use generators and technology will not work without electricity. For instance, within the last six months we have not had power supply for at least a day".*
> *"Another issue is cost….The high cost of diesel is adversely affecting work, because we consume a lot (diesel) due to lack of electricity……and diesel is very expensive. Also, the ICT infrastructures are energy consuming so it costs us so much to generate power to do our work and maintain our systems"*

Director (D2)

Discussion

The findings show that lacks of financing and distributive capacity are the major factors militating against technology adoption in Nigeria. These two factors led to deteriorating and poor infrastructures (such as a lack of electricity), high costs, inconsistent government policies and financial constraints. A lack of finance was revealed as the most potent factor in the adoption of ICT by the Federal Inland Revenue Service; as noted in Adam's (2003) study, cost plays a critical role in organizational adoption of ICT. The findings of this study were quite consistent with Dutta *et al.* (2003), who found that capabilities have important implications for a fundamental economic action and determining prices. Heeks (2003) noticed that many e-government projects in developing countries fail. He distinguished the costs and benefits of failures and identified six categories of potential costs of e-government failure: direct financial costs, indirect financial costs, opportunity costs, political costs, beneficiary costs and future costs. Inadequate ICT infrastructure inhibits the adoption of ICT, and this finding is in line with Kapurubandara *et al.* (2006), who found that the availability of internet facilities and telecommunication services are some of the factors affecting the adoption of ICT by SMEs in developing economy. It is widely believed that ICT adoption is predicated on the availability of physical infrastructure, legal and regulatory issues, adequate research and development and proper policy. To confirm the poor situation of infrastructure in Nigeria, the Minister of the National Planning Commission (NPC), Dr. Abubakar

Sulaiman, said that about N485 trillion is required to deliver quality infrastructure across different sectors of the economy in the next 30 years.

> *Sulaiman…. "he explained that 33 per cent ($1.0trn) is expected to go into Energy sector; 25 per cent ($775bn) to Transport; 13 per cent ($400bn) to Agricultural, Water and Mining sectors; 11 per cent ($350bn) to Housing and Regional development sectors; 11 per cent ($325bn) to ICT; 5 per cent ($150bn) to Social Infrastructure and 2 per cent ($50bn) to Vital Registration and Security".*

However findings of this study were supported by several scholars. Kwacha (2007) noted that the most common problems associated with the effective implementation of ICT are a lack of qualified ICT personnel, cost of equipment, management attitudes, inconsistent electric power supply, inadequate telephone lines, particularly in rural areas, and non-inclusion of ICT programmes. Muhalia (2009) found that the adoption of the mobile phone in rural areas was 80%, and that users of mobile phones spent between 12-25% of their income on running the mobile phone, compared to proposed international standards of 5% of income. 30% of the adopters of the mobile phone were dependent on third-party phones at a very high cost. In addition, Lewis and Smith (2002) summarized the barriers as limited equipment, inadequate skills, minimal support, time constraints and lack of interest or knowledge about computers. The use of technology is culture bound. Therefore, culture influences technology adoption from one country to another. This view is corroborated by Rogers (1995), who explained that the degree of compatibility of information technology and its various uses with the values and norms of a social system influence its diffusion pattern in that social system. Socio-cultural, legal, political and economic variables are other important external variables that influence technology adoption in Nigeria.

In South Korea, the monthly affordability (low cost rate) of broadband led to a high rate of adoption (Choudrie and Lee, 2004). Several previous scholars identified that affordability is a

useful construct to explain and predict behaviour and adoption of information systems (Mathieson *et al*., 2001; Oh *et al*., 2003; Luarn and Lin, 2005; Wu and Wang, 2005). However, Irani *et al.* (2009) stated that "as the cost of broadband is high, then adoption rates will be low and PCs are not easily replaceable items for medium and lower income households with economic barriers toward household broadband adoption". Other related studies such as Mathieson *et al.* (2001), Oh *et al.* (2003), Wu and Wang (2005) and Luarn and Lin (2005) integrated a perceived resources construct with TAM to examine perceptions of adequate resources that can facilitate or inhibit adoption behaviour; the findings of these studies illustrated the significant effect of adequate resources, and it can be argued that the adoption and use of ICT depends on the cost required to obtain it.

The tax e-filing system is not a mandatory system in Nigeria; it is a pilot project that will be later extended to the rest of the taxpayers. Evidence shows that the tax e-filing system may not be efficient in a developing country because the underlying administrative processes have not been reviewed; in addition, there are typically limited IT resources (Edwards-Dowe, 2008). However, information system implementation is considered costly and has a relatively low adoption rate in many parts of the world (Legris *et al.*, 2003).

This study identified that affordability is crucial to the adoption of ICT in company income tax collection in Nigeria, and despite the positive advancements in ICTs, affordability remains a significant problem.

6.9 Chapter Summary

This chapter concluded the analyses of data collected through questionnaires and interviews. In this chapter, attempts are made to analyse relevant primary and secondary data collected with descriptive statistics to provide necessary input data for further analyses. Following the

trend started in chapter four, the analyses were conducted by means of descriptive statistics and strengthened with nonlinear regression for data generated through the questionnaire. The findings of quantitative analysis were reinforced with qualitative analysis of interview data. The results obtained were compared with results from similar previous studies. There is an agreement between the findings generated through questionnaires and those of interviews. The study findings established that there was a significant increase in CIT revenue collection with the use of ICT. Prior to the introduction of ICT in CIT collection, the average collection of CIT revenue was low, after which it increased significantly. In line with the findings of the study, the use of ICT in CIT collection brings taxpayers better service, improved transparency and increased CIT information dissemination, among other benefits.

Overall, the findings of this study reveal that the benefits of the Federal Inland Revenue Service using ICT in CIT collection are the following: introduction of ICT has enhanced company income tax collection and improved revenue generation; the use of ICT has impacts on tax compliance and the cost incurred from enforcing company income tax compliance; the use of ICT has increased company income tax information dissemination; the use of ICT has improved transparency of company income tax collection and potential contribution of ICT towards the effectiveness and efficiency of company income tax collection.

Taxpayers' benefits include online services; reduced paperwork; taxpayers do not need to visit the commercial tax offices for instant acknowledgement; usually no service charges by banks for issuing demand drafts, cheque clearance etc.; easy clearance at check post due to advanced e-declaration of goods in shipment; system-generated annual return based on the monthly returns filed and the reduced need for direct interaction with tax officials, thereby reducing corruption.

Finally, the descriptive studies of the presented research reveal important insights on impacts of ICT in CIT collection and the empirical findings of this study provide valuable insights to policy makers to promote the adoption of e-tax. The next chapter considers conclusions and makes appropriate recommendations for future studies.

CHAPTER 7

CONCLUSION AND RECOMMENDATIONS

7.0 Introduction

This chapter summarises and concludes the overall work conducted throughout this thesis. This chapter concentrates on showing how the results of the study relate to the main objectives and questions posed in this research. It also links the research findings by inspecting similarities and dissimilarities between prior research and findings. In other words, the chapter ties, integrates and synthesizes the various issues raised in the discussion sections, whilst reflecting on the introductory statements and objectives. The chapter consists of the summary, conclusion, recommendations and limitations and suggestions for future research.

7.1 Study Overview

The main objective of the study was to explore the impact of ICT on company income tax (CIT) collection in Nigeria. The structure of the tax system in Nigeria, as specified by the Constitution, reflects the three-tier system of government, which includes the federal, state and local government levels. Taxation is a means by which government in any country in the world generates its revenue, and it is usually collected from the public in various ways, including the transfer of resources from individual and corporate bodies to the government, which can be used to finance social overhead projects and provide the necessary infrastructure for economic growth. To achieve the objective of this study, the researcher has divided the thesis into three main sections. The first section included chapters 1 to 3, which provided a proper set of themes for the study. Chapter 1 introduced the thesis and created a basis for the research concepts regarding ICT and company income tax collection in Nigeria. It emphasized the concept of ICT in company income tax collection so that readers could understand the purpose of the study. The chapter was organised as a general background to

the study. Chapter 2 looked at the general background of taxation in Nigeria in order to ensure a thorough understanding of the existing tax system in the country. It consists of a general background of taxation in Nigeria, tax laws in Nigeria, the Nigerian tax system, company income tax in Nigeria, challenges in company income tax collection in Nigeria, tax administration (TA) in Nigeria, various reforms, using electronic systems to administer Nigerian company income tax and the chapter summary. Chapter 3 provided a review of relevant literature regarding the introduction of ICT in taxation, e-government, e-tax, e-filing, and e-payment. This chapter also discussed the emergence of the research propositions from the literature, and it ended with an explanation of how this study intends to fill the identified knowledge gaps, along with a chapter summary.

The second part of this study involved chapters 4 and 5. Chapter 4 discussed various theoretical theories that are useful in underpinning research work in ICT, such as the Theory of Reasoned Action (TRA), the Theory of Planned Behaviour (TPB), the Unified Theory of Acceptance and Use of Technology (UTAUT), the Technology Acceptance Model (TAM), Diffusion of Innovation (DOI) (Rogers, 1995); the Decomposed Theory of Planned Behaviour (DTPB) (Taylor and Todd, 1995), the extended Technology Acceptance Model (TAM2) (Venkatesh and Davis, 2000), IS Success Model (DeLone and McLean, 1992 and 2003) and Hofstede's Cultural Dimensions (Hofstede, 1980). The Technology Acceptance Model and the Theory of Planned Behaviour were chosen after considering the merits and demerits of other possible models and theories that might have been suitable for this research. The models are based on information describing the processes that lead to intentions to accept or reject a technology. As explained in chapter 4, TAM was used to underpin propositions 1 to 5, and TPB was used to underpin proposition 5. Chapter 5 presented a detailed discussion of the research methodology. The philosophical justification was discussed giving the reasons

for adopting the best methods for this study. A mixed methods approach was adopted for this study in order to ensure convergence of data findings (Mathieson, 1991) and to increase the validity of research findings (Mark and Shortland, 1987). In this study, the researcher used mixed methods to collect the primary data, such as questionnaires and semi-structured interview techniques, while the secondary data was mainly collected from the Federal Inland Revenue Service's office and the Central Bank of Nigeria through official documents and past records. The questionnaire was a mixture of both open-ended and closed-ended questions. The study used thirty-four closed-ended questions and three open-ended questions in sections A and B of the questionnaire. The rates of response of closed-ended questions were relatively higher, compared to the open-ended questions. The questionnaire used for this study was relevant and accurate. The reliability test was carried out. According to Cuieford (1965), "a Cronbach's alpha of 0.6 or higher is commonly considered as a benchmark for reliability testing". The constructs were measured using a five-point Likert scale.

The third part of the study consists of chapters 6 and 7. Chapter 6 involved the empirical analysis and evaluation of each research proposition in order to achieve the study's objectives. The correlation coefficient (for propositions 1 to 4) and multinomial regression (for proposition 5) analyses were conducted on the data and presented in the chapter to determine the relationship and predictor power of the variables. This was done in order to assess the research implications and future studies in the area of the impact of ICT in tax collection, to shape the direction of the Nigerian government's policies regarding electronisation of its service delivery and to contribute to the literature and knowledge. Chapters 6 also summarized the findings of the research. The findings of the study reveal that the application of the e-tax payment system has made it possible for the Federal Inland Revenue Service to monitor lapses in the collection process, curtail corruption by reducing

interaction between Federal Inland Revenue Service's staff and taxpayers and allow companies to pay their taxes at one of many approved collection banks. The study found that the use of ICT in company income tax collection has also improved transparency and accountability. All the taxes collected by the Federal Inland Revenue Service are cleared electronically into the Central Bank of Nigeria. It further found that the use of ICT empowered taxpayers through interactive access and use of information.

The findings revealed that the major factors hindering the impact of ICT in company income tax collection are lack of finance, lack of IT skills, automation at the infancy stage and culture and infrastructure problems, such as an inadequate power supply. Most developing countries (including Nigeria) do not have adequate basic infrastructure such as telephone lines, mobile phones, broadband connections and power supply. If the socio-economic benefits of ICT in the collection of company income tax collection are to be realized, its adoption needs to be understood and encouraged. This study examined the availability, utilization and impact that ICT has made on the collection of company income tax and whether it has brought about any changes in delivering services to the companies (taxpayers). This current study has highlighted several practical implications that can be of help to e-tax service providers to attract taxpayers to complete and submit their tax returns online. The study is useful for educating tax administration and taxpayers in order to improve their attitudes about using the electronic tax and payment system to pay their taxes; it can also enable taxpayers to carry out their tax payments online.

Chapter 7 of the research concluded with the research findings. It consists of an overview of the study, current affairs, summary of findings, placing the findings within the context of the theoretical underpinning, disclosure and refinement of an alternative model, summary of research contribution, implications for academic and policy makers and limitations of the

study and suggestions for further studies. It was concluded from the findings of the study that automated data entry yields great savings in the Nigerian tax system after considering these various benefits that are experienced as a result of the use of ICT in tax collection as the source of a government's revenue. IT enables tax administrations to:

i) better gather and analyse information;
ii) proactively manage workload and resources;
iii) foster a cooperative engagement with taxpayers;
iv) standardize the treatment of taxpayers;
v) facilitate the uniform application of tax law;
vi) compile a database of information;
vii) identify and address non-compliant taxpayers;
viii) increase transparency and act a powerful tool in tackling corruption and minimising bribery;
ix) increase revenue collection with enforcement schemes (special Purpose Tax Officers);
x) achieve potential cost savings and increase efficiency in providing online services to taxpayers.

Based on the tax revenue derived from company income tax, this had been grossly understated in Nigerian economic development as a result of inefficiency and ineffectiveness of tax system administration concerning the collection and assessment of company income tax. The introduction of ICT in company income tax collection has simplified and made much easier the payment of tax online. The Federal Inland Revenue Service officers do not need to re-enter tax payment information the moment it has been entered by the taxpayer and sent electronically to the relevant government database. The researcher developed and used

the extended Technology Acceptance Model (TAM) to produce insights into the impact of ICT on company income tax collection in Nigeria.

7.2 Restatement of Aim and Objectives

The main aim of this study, as stated earlier, was to explore the impact of ICT on collection of company income tax in Nigeria. This aim was broken down into various objectives, as shown below:

1. To investigate the state of company income tax with the existing use of ICT.
2. To assess the impact of ICT in compliance and cost incurred from enforcing compliance of company income tax collection.
3. To examine the current level of CIT information dissemination with the use of ICT in company income tax collection.
4. To explore the transparency of company income tax collection with the use of ICT.
5. To evaluate the ICT potential contribution towards the effectiveness and efficiency of company income tax collection.

The study highlights both the advantages and the problems that hinder the application of ICT in company income tax collection in Nigeria.

These objectives were translated into the following propositions and research questions based on the study's aims and knowledge gaps identified in the literature, and they were evaluated through data collection and analysis.

1. The introduction of ICT has enhanced company income tax collection and improved revenue generation.
2. The use of ICT has impacts on tax compliance and cost incurred in enforcing compliance of company income tax.

3. The use of ICT has increased company income tax information dissemination.

4. The use of ICT has improved transparency of company income tax collection.

5. ICT has the potential to contribute to the effectiveness and efficiency in company income tax collection.

Research Questions

1. Has the existing level of ICT use in company income tax improved revenue generation?

2. What is impact of ICT on company income tax compliance and the cost incurred in enforcing compliance of company income tax?

3. Has the use of ICT in company income tax collection improved tax information dissemination?

4. Has company income tax collection been transparent with the use of ICT?

5. Can ICT make a potential contribution towards the effectiveness and efficiency of company income tax collection?

These propositions were intended to be evaluated in order to prove or contradict the suggested propositions and increase knowledge of the area of ICT adoption in company income tax collection in Nigeria. The process involved evaluating and arriving at meaningful conclusions based on the propositions above, which involved collection of data by means of appropriate research instruments such as questionnaires, semi-structured interviews and secondary data from the Federal Inland Revenue Service's (FIRS); data was also analysed by using suitable qualitative and quantitative techniques. However, answering these questions mentioned above meant verifying the posed issues presented by the interviewees and in turn shedding light on the actual situation in the Federal Inland Revenue Service. In addition, the chapter identifies the intrinsic limitations of the study and suggests important core areas of direction for further discussion and exploration in future related research topics.

7.3 ICT Impact: Current State of Affairs

The Federal Inland Revenue Service has benefited from the use of ICT in company income tax collections in the following ways: it has shortened lengthy and cumbersome manual procedures; ICT usage has minimised errors in return processing and in assessment; processing time and response time to taxpayers queries have been reasonably shortened; all computers at Federal Inland Revenue Service are connected through the local area network; with the introduction of ICT, revenue collection performance was in most cases more than 100%; and the use of ICT in company income tax collection reduces the cost of legislative enactment relating to the tax system and cost incurred in enforcing compliance of company income tax.

The study found that the Federal Inland Revenue Service faced legal, administrative, policy and institutional challenges in leading a reform of Nigeria's tax administration. According to Omogui-Okauru (2009), "overhauling the tax system in Nigeria required overpowering the entrenched opposition from private consultants, who earned high pay under the existing system, to defeat the institutional inertia that characterized the revenue service and curb the corruption that fuelled citizens' distrust and hampered tax collection". It found that in the past, both state and federal tax agencies had contracted with private tax consultants to collect payments in exchange for a cut of 10% - 20% of each tax bill. The practice continued even after the government passed legislation to ban the use of the consultants in 1998. A lack of reliable funding had also persisted at the Federal Inland Revenue Service for years, and the institution was grossly underfunded. Additionally, political wrangling often delayed the federal budget's approval, leaving the Federal Inland Revenue Service without funds to meet its obligations. Employee skills were out of date because the Federal Inland Revenue Service had not provided regular and required training courses. In addition, the study found that, by

2003, the Federal Inland Revenue Service also faced significant problems. An example is that the ratio of licensed tax professionals to support staff was low, as only 12.6% of the 7,600 staff held certification from an accredited tax institution because the Federal Civil Service Commission made all personnel decisions. Therefore the Federal Inland Revenue Service had little control over hiring, training and discipline.

The Federal Inland Revenue Service Establishment Act was promulgated in 2007 and made the service autonomous and increased its financial resources. It also allowed the Federal Inland Revenue Service to recruit its own staff, expand its capacity and automate the collection process in order to reduce corruption and improve taxpayer compliance. This study found that the use of ICT in company income tax collection curtailed corruption by reducing interaction between staff and taxpayers and increasing the Federal Inland Revenue Service's monitoring and tracking capabilities. Manual procedures, such as the generation of receipts, compliance tracking and tax clearance certification, have all provided ample opportunities for fraud.

The study also found that the use of ICT in company income tax collection facilitated efficiency and effectiveness of company income tax collection operations, thereby meeting the target of revenue generation and efficiency gains; quality of service delivery to taxpayers; transparency, anticorruption and accountability; an increase in the capacity of the Federal Inland Revenue Service; network and community creation; and improvements in the quality of decision making. The use of ICT in company income tax collection has made it much easier for the Federal Inland Revenue Service to monitor lapses in the collection process, identify individuals who were skimming revenue and reduce the number of fraudulent clearances. The Federal Inland Revenue Service developed a Taxpayer Identification Number (TIN) system to register and track tax payments for every company in the country. The study

found that the TIN system officially launched in 2009, and companies are required to pay their taxes at any approved collection banks. The study also found that the lack of a comprehensive registering of taxpaying companies complicated the assignment of TINs. To initially create an accurate register of the tax base, the Federal Inland Revenue Service launched a taxpayer enumeration project, and the Federal Inland Revenue Service hired consultants at the regional and state levels to conduct the TIN survey. As the register of companies with TINs grew, the service developed a taxpayer database.

It was found that the Federal Inland Revenue Service collected nearly 700 billion naira (US$4.5 billion) in 2003; hundreds of unregistered businesses did not pay taxes and many registered firms evaded levies.

The study also found that the ICT has increased company income tax revenue generation because of a decrease in the number of human errors. It has also built capacity through the training and retraining of Federal Inland Revenue Service personnel, as well as faster means of payment through online means. This study found that the use of ICT has improved service delivery, efficient management, transparency, greater convenience, and increased revenue and reduced costs. It also found that the use of ICT in company income tax collection provides efficient and effective services to taxpayers. Before the use of ICT in company income tax collection, staffing presented another cause of low and uneven tax collection because the Federal Inland Revenue Service collected each type of federal tax separately. Many staff members specialized in a single type of tax, such as value-added tax, and had limited knowledge of other types, such as the levy on petroleum profits. There was also an insufficient amount of trained staff.

7.4 Summary of Findings in Relation to Research Objectives

The aims and objectives of the study provide valuable knowledge regarding the impact of ICT on company income tax collection in Nigeria. This section discussed a self-appraisal of this study, and the relevant question to answer here is the following: "Have the research objectives been met as restated in 7.2 above?" The answer to this question is, "Yes".

Objective 1: To investigate the state of company income tax with the existing use of ICT.

In chapter 6, this current study examined the first objective through *proposition 1: the introduction of ICT has enhanced company income tax collection and improved revenue generation.* This was done by exploring research proposition 1 using quantitative and qualitative analyses, as well as secondary data analysis. The findings revealed with strong support that the level of effectiveness of revenue collection realised increased with the use of ICT in company income tax collection, as discussed in sections 6.4.1 and 6.4.2 of chapter 6. It also found that e-payment addressed and reduced trapped funds and frauds in the collection system. It found that the use of ICT in CIT collection prevents tax evasion, prevents corrupt practices of tax officials inherent in manual transactions processing and minimises the issue of diversion of government funds to individual accounts. It also led to improvement in the revenue base of the government. Additionally, all the taxes collected on a daily basis by the Federal Inland Revenue Service are placed in the Central Bank of Nigeria. The result indicated that the use of ICT in company income tax collection has improved revenue generation by allowing tax data entry, automated processing, computation and analysis, as well as automatic production of tax reports. The findings reveal that company income tax revenue increased in 2007 from N332billion to N846.6billion in 2012, based on secondary data collected and analysed in chapter 6, section 6.4.2. Furthermore, this study found that the Federal Inland Revenue Service surpassed its 2014 target by N400 billion or 9.32 per cent,

generating about N4.69 trillion in federal government taxes. N1.18 trillion was collected from company income tax in 2014, compared to the N1.03 trillion in 2013 based on quarterly revenue report released in Abuja and reported by Customs Today on 31st January 2015. All interviewees agreed that the use of ICT in company income tax collection has improved tax revenue generation. It also found that the use of ICT has offered many benefits to the Federal Inland Revenue Service, such as minimised errors in return processing and in assessment, faster processing of information and data, requiring less resources and reducing the cost of collection. In addition, it found the use of ICT in company income tax collection has made submission of returns on time possible; it has reduced the error rate and cost in the tax returns processing, and it has increased efficiency and streamlined procedures.

Objective 2: To assess the impact of ICT in compliance and cost incurred from enforcing compliance of company income tax collection.

The second research objective was to evaluate the impact of ICT on compliance and the cost incurred in enforcing company income tax collection compliance (as per Appendix C No 2). This was done by using both quantitative and qualitative analyses in chapter 6. It found that the use of ICT in company income tax has reduced transaction costs for the Federal Inland Revenue Service, in terms of cost incurred in enforcing company income tax compliance, and it eliminated the use of private tax consultants to collect payments in exchange for a cut of 10% - 20% of each tax bill. It has made it much easier for the tax authority to provide company income taxpayers' services and facilitate proper and fair taxation; taxpayers are operating within the regulations of the tax systems, which have increased company income tax compliance. It found that the e-tax payment system has made it possible for the Federal Inland Revenue Service to monitor lapses in the collection of company income tax process, identify individual companies who were skimming revenue and reduce the number of

fraudulent submissions. It found that the Federal Inland Revenue Service Establishment Act 2007 allowed the establishment of "Tax Appeal Tribunals" which commenced in 2009. It provides all taxpayers the opportunity to appeal if dissatisfied with the decision made by any tax authority. It also found that taxpayers can further pursue a case at the Federal High Court, Federal Court of Appeal or Supreme Court as may be required. Using ICT in company income tax collection in Nigeria enables tax authorities to identify and address non-compliance. The findings revealed that 94.4% of the respondents of the surveys agreed that the use of ICT in company income tax collection in Nigeria has detected non-compliance. It also found that before the implementation of th e-tax payment system, many taxpayers were not willing to fulfil their tax obligations because they did not see government using their money effectively to provide and improve services. Now, they can pay online without any charges. Chapter 6, section 6.5 indicated that 90% of the respondents stated that the use of ICT in company income tax collection has reduced cost incurred in enforcing the compliance of company income tax compliance in Nigeria, and corruption has been reduced since there is no regular contact and negotiation between taxpayers and tax officers. Taxpayers can pay all types of taxes without moving from one tax office to another. These factors used to cause low compliance before the use of ICT to collect company income tax. The analysis and findings in chapter 6, section 6.5 indicated that 83.33% of the respondents of the surveys agreed that ICT usage in the company income tax collection has enhanced voluntary compliance. This objective has been met.

Objective 3: To examine the current level of CIT information dissemination with the use of ICT in company income tax collection.

The third research objective has also been met, by examining research proposition 3 using quantitative and qualitative analyses. It emerged that the Federal Inland Revenue Service has

installed software that monitors the whole process and traces payments to ensure accuracy. The analysis and findings in chapter 6, section 6.6 indicated that 96.5% of respondents agreed that installed software monitored all the tax payment processes. It found that the TIN scheme is an automation link to the Federal Inland Revenue Service collection system; it provides one-stop access to taxpayer records and individual taxpayers could pay taxes from their homes through the online portal, www.firsonline.com. The findings revealed that 92.6% of the respondents indicated that all taxpayers have access to tax information through the website, radios, newspapers and televisions. It found that the e-payments system allows taxpayers to pay tax at designated banks and receive a receipt of payment, and that tax officers can print a separate receipt at tax offices distributing the printed receipts to taxpayers. The results provided evidence to show that ICT has created a means of communication between the tax authority and taxpayers through access to tax information and online services, which was not possible before the introduction of ICT in company income tax collection. Now taxpayers can view tax legislations and tax rates online. It also found that the use of ICT in company income tax collection has improved provision of timely information on the radio and on websites, which was previously usually done by post, causing delays. Now multiple media are used, such as public events, websites, mail, email and text messaging. This facilitates easy communication with the staff of the Federal Inland Revenue Service, as well as taxpayers. The analysis and findings in chapter 6, section 6.5 indicated that 93.9% of respondents stated that the e-payment system has shortened the tax payment process and that it provides timely information. It found that the e-payment system has made it much easier for taxpayers to directly or indirectly express their expectations of the Federal Inland Revenue Service and their willingness to support the government's goals through fiscal contributions. Taxpayers and the tax authority can now cope with a large amount of information faster and better.

Objective 4: To explore the transparency of company income tax collection with the use of ICT.

The fourth research objective was also met by evaluating proposition 4,using quantitative and qualitative analyses. It found that the use of ICT in CIT collection has improved transparency; taxpayers pay into the designated banks online and obtain a receipt immediately, and the Federal Inland Revenue Service's software monitors the entire process and traces the payment to ensure accuracy; the banks then transfer the money into the Central Bank of Nigeria. It found that the e-payment system gives the federal government a real time, almost minute by minute, report on taxes paid by taxpayers and receipted by the Federal Inland Revenue Service. The findings of this study also revealed that ICT adoption for company income tax collection in Nigeria has improved accountability and transparency. Based on the analysis and findings in chapter 6, section 6.7, 97% of the respondents stated that there are prompt tax reports regarding any tax officer's misconduct with the ICT usage in company income tax collection. It was found to be a powerful tool in tackling corruption and minimising the bribery of tax officials. With the availability of accurate, understandable, quick and courteous information to the taxpayers, payment procedures became easy and taxpayers' confidence at the same time has improved.

Objective 5: To evaluate the ICT potential contribution towards the effectiveness and efficiency of company income tax collection.

The fifth and final research objective was addressed in chapter 6, by rigorously evaluating proposition 5, combined with semi-structured interviews. Evidence shows that ICT has further ways to potentially contribute to effectiveness and efficiency of company income tax collection, including the following: the use of ICT allows on-going consultancy to enable

Federal Inland Revenue Service staff to have feedback on how the e-tax payment system should actually function and operate; and the e-tax payment system has made it possible for Federal Inland Revenue Service staff to handle more taxpayers in a given period of time, compared to the manual system. The study further found that the introduction of ICT in company income tax collection, as a single system for the management of all taxes, simplifies assessment and collection processes, avoids data duplication and makes the creation of user-friendly "one-stop-shops" (all tax affairs under one roof) possible. It has reduced waiting periods for the issuing of information on a particular taxpayer account from up to four hours to just 3 minutes. For the taxpayer, information about their tax liabilities is thus more easily accessible and less time consuming.

Evidence indicated that ICT in company income tax collection also has the potential to improve interaction between the tax authority and taxpayers, fostering transparency and accountability in administration of company income tax collection. The results indicate that using ICT facilitates the company income tax collection process, and predicted potential contribution to the effectiveness and efficiency of collection. Evidence shows that the use of ICT in company income tax collection in Nigeria is a predictor of efficiency, and research shows a link between The Federal Inland Revenue Service's efficiency and ICT.

The findings show that lack of finance and infrastructure are the major factors militating against technology adoption in Nigeria. However, the findings of this study also revealed that there were some other factors hindering the application of ICT in company income tax collection, including political affiliation, cultural influence and religiosity, as confirmed by scholars such as Kim (2008), Richardson (2008) and Torgler (2007), as cited in Palil (2010); these variables could be included in future studies.

7.5 Placing the Findings within the Context of Applicable Theories

This section focused on the application of the relevant theories underpinning this study, as discussed in detail in chapter 4 from the perspective of social psychology. The two theories used as theoretical underpinnings for this study were TAM and TPB.

7.5.1 Technology Acceptance Model (TAM)

TAM was used in this study to underpin research propositions 1, 2, 3, 4 and 5, and its two main constructs that influence behavioural intention are perceived usefulness (PU) and perceived ease of use (PEOU). TAM posits that a user's intention to use information systems is determined by the perceived usefulness and perceived ease of use of the system (Davis, 1989). The findings in relation to these two constructs are presented as follows:

i) Perceived Usefulness

The study findings also revealed that following the introduction of ICT, revenue collection performance was in most cases more than 200%. It found in the Federal Inland Revenue Service reports that actual tax revenue collection increased to N2.837 trillion in 2010 (337% increase). The analysis and findings in chapter 6, section 6.4 indicated that 75% of interviewees confirmed that ICT usage in company income tax collection has enhanced protection of revenue collections, and that it used to pay into individual accounts US $92 million (N12 billion) a year before the implementation of the e-payment system in Nigeria (Appendix C No 3).

It was found that the use of ICT in company income tax collection in Nigeria offers many benefits to the Federal Inland Revenue Service, such as minimised errors in return processing and in assessment and faster processing of information and data, requiring less resources and reducing the cost of collection. Based on the analysis and findings of chapter 6, section 6.4,

99% of respondents agreed that the e-tax payment system has minimised errors in company income tax processing.

The study found that the use of ICT in company income tax collection in Nigeria has increased delivery services to taxpayers such as accessible services at no cost, online support and dedicated portals, so that the process of filing returns and paying taxes becomes simpler, faster and easier to understand. It also found that 75% of the interviewees in chapter 6, section 6.6 indicated that the e-tax payment system has increased service delivery, and that taxpayers can pay online without any charges.

The use of ICT in company income tax collection in Nigeria has increased transparency and is a powerful tool in tackling corruption and reducing bribery of tax officials.

Using ICT in company income tax collection in Nigeria has made it much easier and quicker for the tax authorities to identify and address non-compliance. The analysis and findings in chapter 6, section 6.5 indicated that 94.4% of respondents confirmed that the e-payment system has addressed and detected non-compliance of company income tax in Nigeria.

It found that ICT usage in company income tax collection has helped taxpayers to cope and comply with deadlines, the forms are easier to complete and there is faster payment processing. The study found that ICT adoption in company income collection has increased efficiency in service delivery to taxpayers (such as online services). The analysis and findings in chapter 6, section 6.4 indicated that 93.9% of respondents established that the e-tax payment system facilitates faster payments than manual payment.

While previous communication by post caused delays, multiple media are now used, including publicity events, website enhancements, mail, email and text messaging, which facilitate easy communication with staff and taxpayers.

The findings of TAM suggest that information technology acceptance and adoption are determined by perceived usefulness (PU) and the user's subjective perception of the probability that using a specific application system will increase his or her job performance. The study found that use of ICT in the collection of company income tax has reduced the cost of tax administration, particularly cost incurred in enforcing compliance of company income tax, increased the effectiveness of revenue collection. Verifying that the correct amount of tax has been paid is an important component of improving compliance. This study also reveals that use of ICT in company income tax collection prevents tax evasion, corrupt practices of tax officials, and increases company income tax compliance. The study found strong evidence to show that ICT in company income tax collection has reduced company income tax collection costs internally, and it reduced compliance costs by providing convenient and faster public services. Perceived usefulness connects with system functions and the level of task-technology fit. In line with the findings of this study, Wu and Chen (2005) identified that the perceived usefulness of an online tax payment system comprises key features such as quality and system functions. Davis (1989) and Bhattacherjee and Samford (2006) confirmed that perceived usefulness is also one of the key factors that motivates system users to continue to use a system in the future. It found that the interviewees indicated in chapter 6, section 6.4 that the e-payment system allows use of available data more effectively to improve forecasting of fiscal revenue in the Federal Inland Revenue Service.

ii) Perceived Ease of Use

This study found that the use of ICT in company income tax collection in Nigeria is simpler, more convenient, faster and easier to understand. The analysis and findings in chapter 6, section 6.4 indicated that 96.9% of the respondents confirmed that the use of ICT in company income tax collection facilitates tax payment and is simple to use.

It found that with the availability of accurate, understandable, quick, kind, polite, and courteous information to the taxpayers, payment procedures become easy and taxpayers' confidence at the same time improves.

It found that use of ICT in company income tax collection has shortened the lengthy and cumbersome manual procedures, and minimised errors in processing and payment. The moment data or figures enter the system, it is sent to the central database or server and the process of revision or refunding can be carried out efficiently.

This study found that ICT use facilitates continuous sharing of information across company income tax collection processes. It found that using ICT in company income tax collection is a modest and clear process, it reduces paperwork and the taxpayers obtain instant acknowledgement when making their tax payment online. Instant e-tax does not require issuing drafts or clearing cheques. The online payment of company income tax by taxpayers minimises corruption and familiarities between taxpayers and staff of the Federal Inland Revenue Service.

7.5.2 Theory of Planned Behaviour (TPB)

The researcher considers TPB relevant to some aspects of this study, as it involves the following: human behaviour (possible effects of BI on the electronic company income tax payment system); technology; professional group; organisation; and management and collection of company income tax revenue. TPB explains and predicts all human behaviour and not just IT usage behaviour. The findings revealed that the TPB model predicts behaviour and ways in which the ICT potential contributes to the effectiveness and efficiency of company income tax collection, such as infrastructure and facilities, training and education, and improving the interaction between the tax authority and taxpayers. However, it is

necessary for researchers to continue to call for additional variables to be added to the model in an attempt to further enhance the model's predictive capability, as confirmed by scholars such as Conner and Armitage (1998) and Lutz (2011). While TPB was used to fully explain Proposition 5, it found that the use of ICT has contributed to more effective revenue collection and administration controls; improved and timely foreign trade statistics, as trade data is an automatic by-product of the computerized system; and less corruption due to transparency and automated procedures. These findings are in line with Hilton's (2008) study identifying that "the collection of tax revenues, besides ICTs, may vary depending upon other key factors such as political rearrangement, the economic situation, and legal issues, incidents like a transitory reorganisation in the internal revenue service structure, an alteration in the country's economic condition, and a reform in the fiscal legislation which can substantially modify the amount of tax and revenue collected". The Federal Inland Revenue Service has been able to increase revenue collections, improve voluntary compliance, minimise collection costs, widen the tax base, and control evasion and fraud with the existing use of ICT in company income tax collection. The application of ICT in company income tax collection is having a positive impact on the growth and development of revenue generation and the economy. The study findings revealed and predict the ways in which ICT can further enhance effectiveness and efficiency in company income tax collection. Predicting the probability of different possible outcomes of the dependent variable is commonly used for choice modelling and to identify variables. The results obtained indicated that using ICT predicted potential contribution to the effectiveness and efficiency of CIT collection as shown in tables 6.25 and 6.27 in chapter 6 of the thesis.

TPB predicted that ICT has the potential to contribute to the effectiveness and efficiency of company income tax collection through the following:

i) ICT infrastructure and facilities are accessible to all members of staff;

ii) all members of staff in FIRS are trained and educated on the e-tax payments system;

iii) ICT has enabled FIRS staff to handle more taxpayers in a given period compared to the manual system;

iv) ongoing consultation enables staff feedback on how the e-tax system should actually function and operate;

v) there are expectations of improvement with ICT in company income tax collections in the future; and

vi) ICT also has the potential to improve interaction between the Federal Inland Revenue Service and taxpayers, and develop transparency and accountability in administration of company income tax collections.

The overall test of the relationship among the independent variables and groups defined by the dependent variables is based on the reduction in the likelihood values for a model that does not contain any independent variables and the model that does contain independent variables. These variables include the following: the ICT infrastructure and facilities are accessible to all members of staff; all members of staff in FIRS are trained and educated on the e-tax payments system; ICT has enabled FIRS staff to handle more taxpayers in a given period, compared to the manual system; ongoing consultation enables staff feedback on how the e-tax system should actually function and operate; there are expectations of improvement with ICT in company income tax collections in the future; and ICT also has the potential to improve the interaction between the tax authority and taxpayers, fostering transparency and accountability in administration of company income tax collections. This study concluded that ICT effectiveness and efficiency are predictors of company income tax collection in Nigeria. The existence of a relationship between the independent variables and the dependent variable was supported by several empirical studies.

7.5.3 Development and Refinement of an Alternative Model

TAM as developed by Davis (1985) posits that perceived ease of use and perceived usefulness predict attitude toward use of technology, which in turn, is directly influenced by external variables consisting of the actual system's features and capabilities. Other scholars have used TAM to underpin their studies in technology adoption mostly in politically stable, developed environment and economically developed countries as shown in Fig. 4.4.

This study, on the other hand, found that, in Nigeria's case, the model's assumptions are not appropriate as a result of the politically unstable environment. The Nigerian situation showed that an ICT project can run its course, pause abruptly even at a late stage of implementation, and shut down completely for a period of time. It can also re-start at a later stage depending on politics, war, loyalty of public servants to the team carrying out the implementation of the ICT project, and the will of decision makers. Political wrangling often delayed the federal budget's approval and led to resource delays and shortages, leaving the Federal Inland Revenue Service without funds to pay its staff salaries with resultant consequences on CIT implementations. Poor electricity supply is a major infrastructural deficiency militating against ICT development (Nkohkwo and Islam, 2013). The poor ICT infrastructure in developing countries such as Nigeria may be ascribed to mismanagement of financial resources. The difficulty in accessing capital due to inadequate financial strength usually poses serious obstacles to the private sector and has negative impact on adoption of technology in developing countries (particularly Nigeria). Lack of financial resources or mis-management of financial resources where available is considered to be one of the critical factors that influence technology adoption in developing countries. Limited financial resources compel developing countries to be cautious about their investment and capital spending (Ghobakhloo *et al*., 2011b). The implementation of the IT system and its

components requires long term investment (Nguyen, 2009). According to Mathieson *et al.* (2001) and Micheni *et al.* (2013), economic motivations and outcomes are most often the focus of information systems acceptance studies. Table 7.1 shows characteristics of developing countries and barriers to technology adoption.

Characteristics	Antecedents
Financial	• Lack of financial resources • High level of debt • Incompatible prices, subsidies, tariffs, taxes and insurance • Lack of incentives • Lack of access to credit • High up-front and transaction costs • Low economic productivity
Infrastructural	• Lack of minimal technological infrastructures • Inflexible city and settlement designs • Infrastructure obsolescence
Legal	• Inappropriate systems • Inappropriate allocation of liabilities for environmental damage • Inappropriate litigation systems
Regulatory and policies	• Existing laws and policies that may not be compatible with climate change mitigation and adaptation-related measures • Lack of necessary policies, regulations, standards and codes
Human resources	• Lack of skill/expertise in dealing with various aspects of climate change related projects • Lack of skilled personnel for the installation and operation of environmentally sound technologies
Organizational and Institutional	• Lack of compatible or adequate organizational and institutional frameworks (legal, financial, regulatory, enforcement, etc.) • Lack of coordination among activities of existing organizations and institutions
Social and cultural	• Social practices, beliefs and norms that prevent acceptance of climate change mitigation/adaptation options • Lack of awareness of environmentally sound technologies and energy efficiency benefits • Inefficient life-styles
Political	• Lack of public mechanisms that support technology transfer • Ineffective governance • Lack of freedom of speech and information

Table7.1 The characteristics of developing countries and barriers to technology adoption

According to Averweg (2002), the correlation for TAM usefulness-usage construct was lower than for use-usage and was not consistent with Davis' findings. An affordable universal

service is one in which the "cost of average monthly usage is a small percentage of monthly gross national income (GNI) per capita" (Dymond *et al.,* 2010). Norbhu (2014) identifies that in developing countries, broadband affordability is greater than 5% of average monthly GNI per capita, 2.6 billion people cannot afford mobile broadband, 3.9 billion people cannot afford fixed broadband and estimates might fall short due to inequality. Davis (1989) emphasises that perceived usefulness and ease of use are people's subjective appraisals of performance and effort, respectively, and do not necessarily reflect objective reality. Averweg's (2002) results are not in support of the basic tenets of TAM. However, they all involved more money and time allocated at different times, which contradict the model. Nigerian GDP per capita (current US$) in 2013 was 3,006, compared to 141,100 of Liechtenstein and 39,337 in the United Kingdom. In the same line of argument, work conducted by Munsaka (2010) identifies that the biggest challenge facing potential ICT consumers is the high cost of equipment, and it is expensive for the citizens of a country with a per capita GNP which only just exceeds the cost of a single personal computer; costs for broadband services are high – around US$100 per month, compared to around US$20 in Europe. In developing countries, only the wealthy have access to the internet in their homes and offices, while most consumers rely on telecentres and cybercafés. In addition, the informal sector is a prominent characteristic of many developing countries and Nigeria, for instance, has a large informal sector, very high self-employment rates and low levels of tax collection. Informal activity is estimated to comprise a much larger share of the economies of low-income countries – on average around 42% of GDP in a sample of 31 low and lower-middle-income countries – than a comparable sample of 32 higher-income countries (22% of GDP) in the Organisation for Economic Co-operation and Development (OECD, 2010). Evidence suggests that lower tax collections reflect a weaker capacity of the state to enforce rules or provide benefits that induce firms to join the formal sector.

This construct (affordability) has been valuable in enhancing our understanding of IT adoption, particularly in developing countries. The cost of availing IT systems is also a common matter of concern among the tax officers who were interviewed. Direct correlation can be made between the affordability of broadband connectivity and the ability of an individual or country to successfully transform itself through the utilisation of ICT capabilities (Thomas and Carvalho, 2012). According to Legris *et al.* (2003) , information systems (IS) implementation is costly, and early efforts concentrated on the identification of factors that facilitated IS use. Recently, IS researchers have concentrated their efforts on developing and testing models that could help in predicting system use. One of them, the Technology Acceptance Model (TAM) proposed by Davis in 1986 in his doctoral thesis, examined the mediating role of perceived ease of use and perceived usefulness in their relation between systems characteristics (external variables) and the probability of system use (an indicator of system success). According to TAM, actual use of a technology system is influenced directly or indirectly by the user's behavioural intentions, attitude, perceived usefulness of the system, and perceived ease of use of the system.

The findings of this study suggested that the model needs to be refined to allow for ongoing base assessment due to the fact that the initial given situation may change drastically. According to Muhalia (2009), "the adoption of the phone among the majority in the rural areas does not necessarily conform to well-known models of adoption, as in some cases adoption takes place before acceptance for the rural areas dependent upon the urban population in both acquisition and maintenance of mobile phones". Researchers using the model must keep track of the changing environment and encompass those forcible changes in the application of the model. The proposed refined model is shown in Fig 7.1

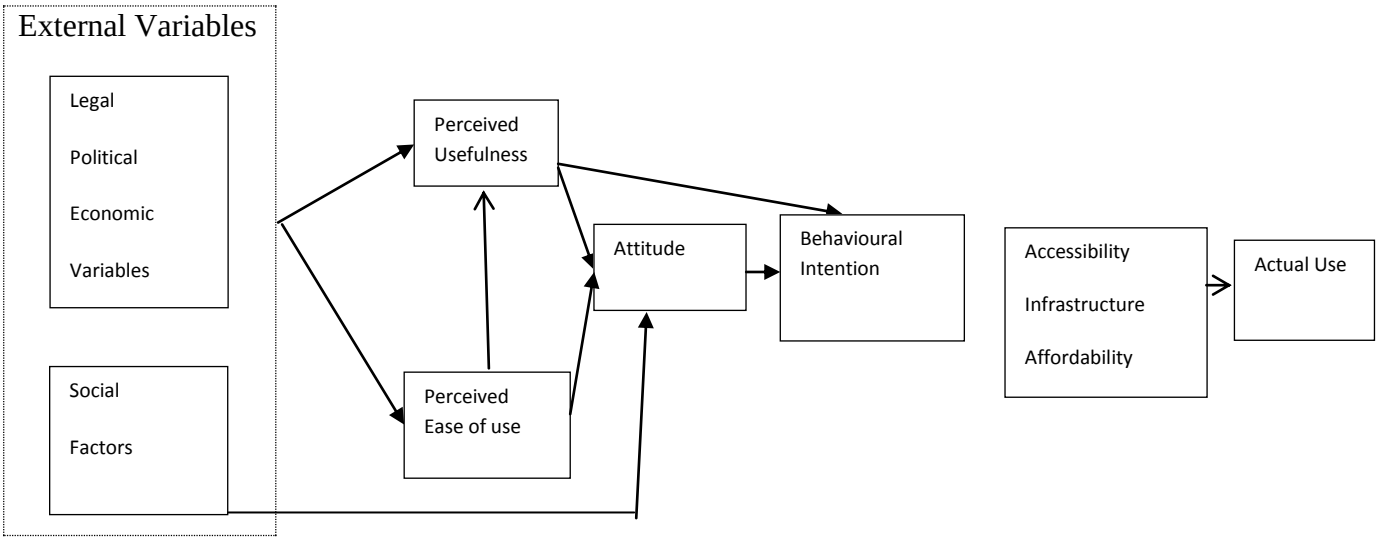

Figure 7.1 The proposed refined TAM

The study model (illustrated in Figure 7.1) postulates that actual adoption of ICT in company income tax collection is determined by the following constructs: external variables (such as legal, political or economic variables and social factors), perceived usefulness and perceived ease of use; attitude; intention to use and accessibility in terms of ICT infrastructure and affordability. TAM provides a basis on which one can trace how external variables influence belief, attitude, and intention to use and it also proposes that external factors affect intention and actual use through mediated effects on perceived usefulness and perceived ease of use. The study model (illustrated in Figure 7.1) above postulates that social factors (such as Social practices, beliefs and norms that prevent acceptance of climate change mitigation/adaptation options, lack of awareness of environmentally sound technologies and energy efficiency benefits lack of awareness of environmentally sound technologies and energy efficiency benefits and inefficient life-styles) have direct influence on technology users' attitude which were not considered in TAM's assumptions or by previous scholars. Many scholars like Rogers (1995), Taylor and Todd (1995) and Lu et al., (2005) suggest that social influences are an important determinant of behaviour. Social influence is defined as the degree to which

an individual perceives the importance of the beliefs of others that he or she should use the new system (Venkatesh et al., 2003). The findings of this study reveal that the use of ICT in collection of company income tax is influenced with by social network. Developed countries have adequate financial resources, ICT infrastructure, maturity, knowledgeable employees and operation performance; they can adopt ICT in their activities, unlike developing countries such as Nigeria. To overcome this complex situation, the researcher suggests that the Federal Inland Revenue Service to establish and provide simple Tax Software to both tax officers and taxpayers (as recommended a future study) that enables tax officers to perform their functions effectively as well as taxpayers to render their tax returns and remit taxes using mobile phones. It is important, not just as a means of two-way communication, but as an easy way to access information. ICT infrastructure in technology adoption is something extremely important, and in the case of a developing country such as Nigeria, ICT infrastructure needs to be put in place. The researcher explored the relationship between ICT infrastructure and the use of ICT in company income tax collection, and the findings reveal that ICT infrastructure had a direct and significantly positive effect; the more ICT infrastructure was believed to be available, the greater the intention to use ICT in company income tax collection.

The findings suggest that ICT infrastructure is an important factor for the tax authority with regard to the collection of company income tax online. The interviewees confirmed that ICT infrastructure is a barrier to the collection of company income tax. Another factor militating against the use of ICT in company income tax collection in Nigeria is the affordability of technology systems. Both the preceding factors will be felt more acutely as the Tax Authorities diversify tax collection by attempting to bring more formal and informal, medium and small organisations within the tax net. The findings of this study revealed that political

wrangling often delayed the federal budget's approval, leaving the Federal Inland Revenue Service without funds to meet its obligations. An affordable universal service is one in which the "cost of average monthly usage is a small percentage of monthly gross national income (GNI) per capita" (Dymond *et al.*, 2010). In view of the multifaceted nature of the problem, ensuring affordable access to infrastructure, devices, and services, as well as cooperation among the various organizations and government, are key ways to improve access and affordability.

According to Esselaar *et al.* (2008), **"**ICT costs can be reduced by establishing a regulatory environment that facilitates competition in the ICT sector, and lower ICT costs could be achieved through the following regulatory interventions:

i) introducing number portability between mobile phone operators;
ii) international gateways for mobile operators and Internet Service Providers; and
iii) introducing innovative approaches to fixed line telephony such as prepaid mechanisms and fixed wireless access".

7.6 Significance of the Findings

Information and communication technology (ICT) refers to any communication device or application, encompassing: radio, television, cellular phones, computer and network hardware and software, satellite systems. ICT also includes the various services and applications connected with communication devices, such as videoconferencing and distance learning. It also encompasses any medium to record information, such as paper, pen, magnetic disk/tape, optical disks and flash memory.

Today, no one is surprised to receive new information by the minute, to communicate with people on the other side of the world, and to work in a team without being in the same place.

ICTs are now significant and essential parts of our lives. This concept is also called the information society, which is owed primarily to an invention that began four decades ago: the internet that creates emails, instant messaging services and web pages. The development of the internet has meant that information is now in many places. Earlier information was intense, given to parents, teachers, in books; but today these barriers have been broken. There is access to internet everywhere, the only problem; however, is the quality of this information. It has streamlined contact between people and also contacts in doing business. Many politicians have their blogs or videos on YouTube, making it clear that ICT, especially in the last 10 years, has changed every aspect of life. In part, these new technologies are immaterial because the main issue is the information; interconnection and interaction are instantaneous. At the same time, new technologies represent the emergence of new codes and languages and the progressive specialization of content based on the audience (breaking mass culture), soon resulting in unimaginable activities.

The use of mobile phones has impacted rural living in many ways, such as the following: entrepreneurship and job searchs; easy access to information; the use of mobile phones can correct market inefficiencies; transport substitution; in cases of severe drought, floods, wars or weak economies, mobile phones can be used to keep in touch with one's home community; and education and health and mobile services enable participants to act together more efficiently to pursue shared objectives by promoting cooperation among social networks.

7.7 Summary of Research Contributions

This study has achieved the main objectives set out in Chapter 1, section 1.4, and it has made the following contributions:

i. The researcher developed and employed an extended version of the most influential and popular model - Technology Acceptance Model (TAM) - in order to produce insights into the impact of ICT on company income tax collection in Nigeria, and this study has contributed to the limited body of work in this area.

ii. This study contributes to how the Technology Acceptance Model (TAM) explains ICT adoption in a developing economy such as Nigeria, and postulates that the actual use of ICT in company income tax collection is determined by perceived usefulness and perceived ease of use, attitude, intention to use, affordability and infrastructure accessibility.

iii. It makes a significant contribution to the field of knowledge by offering valuable insights towards improving and enriching online company income tax collection.

iv. It suggests areas for future work, as well as questions that are important to e-tax payment systems in developing countries, especially in Nigeria. It provides a basic platform for evaluating the impact of ICT in company income tax collection.

v. It is a preliminary study of this kind, and the study has contributed to the literature on technology adoption in company income tax collection.

vi. The results of this study will be useful for stakeholders such as scholars, Federal Inland Revenue Service, companies, tax consultants and tax policymakers that are interested in encouraging the adoption of technology in company income tax collection

vii. It will be useful to educate tax authorities and taxpayers in order to improve their attitudes about using e-tax filing and payment, as well as tax practitioners that file tax returns.

viii. It will shape the direction of the Nigerian government's policies regarding adoption of e-tax systems.

The findings of this study reveal that use of ICT in company income tax collection has blocked the leakages in tax systems such as tax evasions, corrupt practices of tax officials and the issue of diversion of government funds to individual accounts; it has also increased company income tax compliance. Additionally, the study has shed more light on the usage of ICT in company income tax collection and identified the benefits and challenges of the e- tax payment system to FIRS, companies and tax practitioners and and FIRS. It improves their attitudes towards e-tax as a means to file tax returns undoubtedly.

7.8 Contribution to Theoretical Debate

This study established why the Technology Acceptance Model (TAM) needs to be refined to accommodate developing economies' situations and circumstances. Davis (1985) developed the model, which other scholars used to underpin their studies in technology adoption in politically stable and developed economies. The extended Technology Acceptance Model on technology acceptance and adoption has emerged (Fig. 7.1) to understand the issue of ICT in company income tax collection in Nigeria. The model captured and explained accessibility in terms of ICT infrastructure, mostly the inadequate electricity supply and affordability due to lack of financial resources and poor economic conditions in developing countries.

7.9 Implications for Policy Makers

Based on the findings of this study, the following conclusions are expected to be of value for policy makers when they are embarking on improving the company income tax revenue generation base:

1. In line with the significant contribution of this study, the researcher suggests that the Federal Inland Revenue should establish simplified electronic tax filing and payment systems, whereby the tax authority could process imposition, accessing and collecting of company income tax through mobile telephones. This is less costly and requires very minimal electric or solar power supply. In addition, the use of mobile telephones requires little or no serious training. Lack of ICT infrastructure is one of the main problems for company income tax collection in Nigeria. The simplification of the e-filing and e-payment systems will increase the interest of Federal Inland Revenue Service staff and taxpayers in using the system. According to Omoigui-Okauru (2005), "to build Nigeria, we need to build institutions, and the revenue service is one such institution, and failing to build an institutional foundation for tax administration, she added, would affect every other sector in the economy". The use of mobile telephones will help address infrastructure gaps and overcome human capital deficiencies. Taxpayers can simply pay their taxes through mobile telephone networks to bypass infrastructure inefficiencies, and there will be significant gains with the use of financial networks. According to Engelschalk (2004), "Removing the opportunities for corruption (and harassment) is one reason often given for introducing various simplified, and presumptive substitute, tax systems". It is very uncommon today for people to leave home without their mobile telephones. They may forget other things like their wallets, but they will seldom forget their mobile telephones. If they do, chances are that they will return home to retrieve it. People like to communicate and be in touch with others. Therefore, there is a lot of convergence going into the mobile telephone, and it is one of the reasons why tax authorities need to look at the mobile telephone device; it will help taxpayers file their tax returns and make tax payments through the mobile telephone device. In rural areas where there is little or no electricity supply, people still have mobile telephones.

2. The government and Federal Inland Revenue Service should demonstrate the efficient utilization of resources (company income tax collection) to enable companies (taxpayers) to see where the money is going, and the level of compliance would also improve through enhanced enforcement actions and better taxpayer services. According to Ogungbesan (2011), "many Nigerians were not willing to pay taxes because they did not see the government using their money effectively to provide and improve services".

3. The Federal Inland Revenue Service reforms could pave the way for increased centralization of tax administration, marginalizing the role of state collection agencies and reducing state control. There will also be increased harmonization and integration of federal and state level tax administration, which could improve company income tax compliance. The distortionary and largely inequitable taxation laws need to be amended and updated. "The Federal Inland Revenue Service must do more biting than barking in the face of decrepit infrastructure, failing health and education indices, which are rated among the worst in the world by notable global bodies like the World Bank and the Economist intelligence Unit, the country needs more revenue from taxation", (Okonjo-Iweala, 2014).

4. Electronic tax filing and payment systems should be fully implemented to drastically reduce the associated problems of collecting tax, such as fraud and diversion of government funds to private pockets.

5. Regular public enlightenment on the benefits of company income tax payment should be introduced either through the media or workshops, or through the use of posters. This study's findings also show that the electronic tax payment system has increased tax compliance and revenue collection in the Federal Inland Revenue Service. In one of interaction workshops organised by the Federal Inland Revenue Service in November 2014, Alhaji Aliko Dangote, the President of The Dangote Group suggested that "the government and the Federal Inland

Revenue Service should launch the bold step of naming and shaming the tax defaulters, while appreciating the companies and individuals who faithfully fulfil their tax payment obligations".

6. There should be regular training of the revenue officers; regular monitoring and supervision of revenue officers; more qualified revenue personnel should be employed in order to enhance revenue generation; the incentives given to revenue officers should be enhanced and the best revenue officer of the year should be rewarded, if possible.

7. Evidence shows that the Federal Inland Revenue Service servers are so slow because they are overwhelmed by the number of users. Nigeria currently lacks the various machinery and software required for the functioning of the e-tax system, and the researcher recommends that the e-tax servers should be upgraded by the Federal Inland Revenue Service to reduce pressure on the existing servers.

8. Implementing electronic tax filing and payment systems will comprehensively enhance existing ICT in company income tax collection. The study finds that the Federal Inland Revenue Service staff's attitude towards the use of electronic tax payments system is positive and that it is easy for taxpayers to pay their taxes accurately. Policy makers should find the means to finance the full implementation of electronic tax filing and payment systems.

9. The problems of company income tax collection in Nigeria include a lack of adequate staff to carry out assignments efficiently and low levels of skills in technology; the Federal Inland Revenue Service staff requires human capital development and lifelong learning such as skills, capabilities, education and learning how to operate the new system.

10. The Federal Inland Revenue Service should increase adverts in both print and electronic media about the use of the e-tax filing and payment systems to reduce the time the taxpayers spend in a conference or seminar.

11. Change management: evidence was presented that the working group in particular did not favour some of drastic changes that called for increased power of state governments that are not generating anything, but just go to the federal government at the end of the month; this is the root of corruption, inefficiency and misallocation of resources in Nigeria. There must be a change irrespective of culture differences, and every FIRS staff member must support change in order to achieve the goals.

12. FIRS should also consider the impact of changes in ICT in company income tax collection, affecting both the design and the use of different tax instruments in generating revenue. The new e-filing system should not be complex for continuity; otherwise, it may be wild shortly.

13. There is a need to improve the ratio of company income tax revenue collection to GDP as the current result is not encouraging, as shown in appendix C (GDP and company income tax collection from 2001-2012). Therefore, general tax reform in company income tax is urgently required. According to the Heritage Foundation 2012 data, France has a tax to GDP ratio of 44.6%, Sweden 45.6%, UK 39%, US 27%, Tanzania 12%, Burkina Faso 11.5% and Nigeria 6.1%.(PWC, 2014)

14. Manufacturers should focus on increasing the affordability of the e-tax payment system for taxpayers and on the potential role of tax practitioners in supporting use of the e-tax payment systems.

7.10 Limitations of the Current Study

There are obvious restrictions of time and inadequate funds, as with other doctoral research works. These place constraints on the scope and coverage of this study. Using other methods of data collection, such as observation and experimental techniques, may provide different results. However, the use of the questionnaire plus secondary data to complement interviews provided a good alternative.

Other determinants such as political affiliation (Kim, 2008), cultural influence (Richardson, 2008) and religiosity (Torgler, 2007 cited in Palil, 2010) were not tested in this study. These variables could be included in future studies. FIRS staff was unwilling to give information throughout the data collection process because of confidentiality of company income tax revenue.

The primary obstacle in making use of ICT in CIT collection for FIRS staff is the limited scope of existing ICT infrastructure, particularly in rural areas. Basic ICT infrastructure is concentrated in a few cities or urban settings. However, the use of mobile phones is ubiquitous in Nigeria, and it helps to transact business as required. According to Roller and Waverman (2001), it was "identified that the introduction of mobile telephones has made it much easier for developing countries to bypass the heavy infrastructure development of land–based telephone systems, and has facilitated market integration and more rapid economic development".

This study targeted FIRS as the tax authority collecting company income tax in Nigeria, which was implementing an e-tax payment system that was however not fully implemented in most rural areas. However, this study covers the activities of FIRS in company income tax collection, companies in relation to tax returns, tax payments, and tax practitioners (tax

consultants), particularly in Abuja and Lagos. The choice of these two cities is convenient to the researcher, and Abuja is a federal capital territory, as explained in chapter 1, section1.6.

7.11 Suggestions for Future Research

This study was limited to the impact of ICT on company income tax collection, but other directions for future research are the impact of ICT on petroleum profit tax collection in Nigeria, value added tax (VAT), property tax, capital gains tax (CGT), stamp duty (SD), the National Information Technology Development Fund (NITDF), personal income tax (PIT) and the pre-operational levy (POL).

To build on a study of technology acceptance, however, it is necessary to develop an understanding of taxpayers' behavioural intention in the Nigerian context, such as cultural and religious impacts on the adoption of ICT in the collection of taxes in Nigeria. The research area was also limited to Nigeria, but future research could be cross-national, involving other developing countries such those in West Africa, to analyse numerous aspects of these countries' income tax collection and tax administration processes.

Based on the findings, further research could validate the relationship between the Federal Inland Revenue Service and ICT adoption in all areas of Federal Inland Revenue Service activities, as opposed to partial ICT in company income tax collection alone. Further research could examine a wider respondent base across the 36 states of the federation, with a more diversified sample.

All data collected was confined to Nigeria; future studies need to undertake a cross-cultural approach to examine whether the findings obtained from this study are specific to Nigeria or whether the results would be the same across other developing countries. Future studies should also investigate the impact on ICT in company income tax collection on taxpayers.

REFERENCES

Abdalla, O. I. (2006), "Development and application of information and communication technologies in the public sector: case of the President's Office - Planning and Privatization", M.A Dissertation, University of Dar es salaam, Tanzania.

Abdul-Jabbar and Pope, J. (2008), "exploring the relationship between Tax Compliance costs and Compliance issues in Malaysia" Applied Law and Policy Area of Research Focus, Curtin Business School; Director, Tax Policy Research Unit, School of Economics and Finance, Curtin University.

Abdulrazaq, M. (1993), Nigerian tax offences and penalties, Batay Law Publication Ltd, Ilorin, Nigeria

Abdulrazaqu, A. (2002), Nigeria Tax Guide and Studies (ED), the Chartered Institute of Taxation of Nigeria, Lagos.

Abichandani, R.K., (2008), Income Tax Administration (TA) in India. Gujarat: National Informatics Centre.

Abiola, S (2010), Recent Developments in Company Income Taxation in Nigeria, Bulletin for International Taxation, Vol 65, No 1.

Adam, L.and Wood, F. (1999), "An investigation of the impact of information and communication

Adams, D. A., Nelson, R. R., and Todd, P. A. (1992), Perceived usefulness, ease of use and usage of information technology: A replication. MIS Quarterly, 16(2), 227-247

Addison, T. and Levin, J. (2011), "The Determinants of Tax Revenue in Sub-Saharan Africa" Journal of International Development

Adebisi, J.F (2010), "Appraisal of Tax AdministrationTA in Kogi state" Department of Accountancy, Kogi State Polytechnic, Lokoja, Nigeria, June 2010.

Adegbile, F.F. and Fakile, A.S. (2011),"The Impact of the Evasion on Federal Government of Nigeria Revenue Generation", ICAN Journal of Accounting and Finance (IJAF). Vol. No. 3: 74 – 83.

Adekanola, O. (1996), "legality of the appointment of consultants for revenue generation" paper delivered at a seminar organized by the CITN, 20th June.

Adekanola, O. (1997), "efficient tax collection and effective tax administration in Nigeria". paper presented at a seminar organized by the University of Lagos consultancy services Otta, 15 May.

Adesola, S.M. (1998), Tax Law and Administration in Nigeria: an Introduction, Obafemi Awolowo University Press Limited, Ile-Ife.

Adeyemo, A. B. (2011),"e-government implementation in Nigeria: an assessment of Nigeria's global e-gov ranking, journal of internet and information system Vol. 2(1): 11-19, January 2011.

Adhikari, R. (2008), e-Revenue Administration in Nepal, Groupware to the next level, Informationweek, 106-111.

Agarwal R, Prasad J (1999), Are Individual Differences Germane to the Acceptance of New Information Technologies? Decision Sci. 30(2): 361-391

Agarwal, R and Karahanna, E (2000), "Cognitive Absorption and Beliefs about Information Technology Usage" Author(s): MIS Quarterly, Vol. 24, No. 4: 665-694

Agarwal, R. and Prasad, J (1997), "The role of innovation characteristics and perceived voluntariness in the acceptance of information technologies", Decision Sciences 28 (3):557–582.

Agarwal, R. and Prasad, J (1998), "Conceptual and Operational Definition of Personal Innovativeness in the Domain of Information Technology", Information Systems Research, Volume 9, Issue 2

Agarwal, R., and Prasad, J. (1997), The role of innovation characteristics and perceived voluntariness in the acceptance of information technologies, Decision Sciences, 28, 3 (1997), 557–580.

Aguolu, O. (2004), International Auditing in Nigeria: Prospects, Mmiridian Associates.

Ai, L. L, Maslin, M. and Sabariyah, D (2013), E-government and e-governance concepts and constructs in the context of service delivery, African Journal of Business Management, Vol. 7(28): 2817-2826, 28 July, 2013 DOI: 10.5897/AJBM2012.1595, ISSN 1993-8233 © 2013 Academic Journals.

Aichholzer, G and Schmutzer, R (2000), Organizational challenges to the development of electronic government. Proceedings of 11th International Workshop on: Database and Expert Systems Applications (379-383).

Ajzen, I and Fishbein, M (1980), "Understanding Attitudes and predicting Social Behaviour", Prentice-Hall, Englewood Cliffs, NJ.

Ajzen, I. (1985), "From intentions to actions: A Theory of Planned Behaviour" in J. Kuhl, J.Beckmann (eds), Action Control from Cognition to Behaviour, Springer Verlag, New York.

Ajzen, I. (1991), "The theory of planned behaviour, Organizational Behaviour and Human Decision Processes", 50, 179–211

Akinlo, A. E. (2001),"foreign direct investment and economic growth in sub-saharan Africa", international review of economics and business, 50, 569–580

Akinola, A.E. (2000): "problems and prospects of tax administration and revenue generation in Nigeria," paper presented at the chartered institute of taxation of Nigeria seminar, Lagos.

Akman, I., Yazici, A., Mishra, A. and Arifoglu, A. (2005), E-Government: a global view and an empirical evaluation of some attributes of citizens, Government Information Quarterly, 22, 239- 257.

Akman, I., Yazici, A., Mishra, A., and Arifoglu, A. (2005), E-Gov: A global perspective and an empirical assessment of citizens' attributes. Government Information Quarterly: 239–257

Akman, L., Yamashita, A., Watanabe, H., Oshima, K., Shiba, T., Hattori, M., and Aksoy, S. (2002), Genome sequence of the endocellular obligate symbiont of tsetse, Wigglesworthia glossinidia, Nat. Genet. 32: 402-407

Alabede, J. O. (2011), "Determinants of Tax Compliance Behaviour: A Proposed Model for Nigeria", International Research Journal of Finance and Economics, ISSN 1450-2887 Issue 78 (2011).

Alabede, J.O., Z.Z. Ariffin and K.M. Idris (2011), individual taxpayers' attitude and compliance behaviour in Nigeria: The moderating role of financial condition and risk preference. journal of accounting and taxation, 3(5):91-104

Al-adawi, Z., Yousafzai, S. and Pallister, J. (2005), Conceptual model of citizen adoption of egovernment. Paper presented at The Second International Conference on Innovations in Information Technology (IIT ''05), Emirates Tower Hotel, Dubai, 26-28 September 2005.

Alavi, M., and Carlson, P. (1992), A review of MIS research and disciplinary development, Journal of Management Information Systems, 8(4), 45–62.

AlAwadhi, S. and Morris, A. (2009), "Factors Influencing the Adoption of E-government Services", Journal of Software, Vol. 4, No. 6, AUGUST 2009

Alba J, Lynch J, Weitz B, Janiszewski C, Lutz R, Sawyer A, Wood S (1997), Interactive Home Shopping: Consumer, Retailer, and Manufacturer Incentives to Participate in Electronic Marketplaces, J. Mark. 61(3): 38-53.

Albayrak M. (2000), "Determination of route by means of Genetic Algorithms for printed circuit board driller machines", Selcuk University.

Albayrak, M (2008), Determination of route by means of Genetic Algorithms for printed circuit board driller machines, Master dissertation, Selcuk University

Albright, H J (2008), Principles of Taxation.

Al-Jaghoub, S, Al-Yaseen, H and Al-Hourani, M. (2010) "evaluation of awareness and acceptability of using e-governmente-Government services in developing countries: the case of Jordan" the electronic journal information systems evaluation volume 13 issue 1 2010.

Al-Khatib, H. and Lee, H. (2011), "E-Government Systems Success and User Acceptance in Developing Countries: The Role of Perceived Support Quality", International Journal of e-Business and e-Government studies Vol. 3, No 2, 2011 ISSN; 2146-0744 (Online).

Alm J., and McKee M. (2006), ¨Audit Certainty, Audit Productivity and Taxpayer Compliance.¨ National Tax Journal 59. (December) 2006: 801-816.

Alm, J. and Martinez-Vazquez, J. (2003), "Institutions, Paradigms, and Tax Evasion in Developing and Transition Countries," in Public Finance in Developing and Transition Countries, eds. J. Martinez-Vazquez and J. Alm, Edgar Elgar: 146-178.

Alm, J. and Martinez-Vazquez, J. (2003), "Institutions, Paradigms, and Tax Evasion in Developing and Transition Countries," in Public Finance in Developing and Transition Countries, eds. J. Martinez-Vazquez and J. Alm, Edgar Elgar: 146-178.

Alonso, J. A. and Garcimartín, C. (2012), Does Aid Hinder Tax Efforts? More Evidence, Journal of International Development.

Al-Rashidi, H (2010), Internal Challenges to E-Government Implementation from System Users Perspective, In proceedings of the European and Mediterranean, Conference on Information Systems (Abu Dhabi, UAE,

Alryalat, M. Dwivedi, Y. K., Williams, M. D., and Rana, N. P. (2013), examine role of usefulness, ease of use and social influence on Jordanian citizen's intention to adopt e-government, Association for Information Systems AIS Electronic Library, UK Academy for Information Systems.

Amin, H. (2008), "Factors affecting the intentions of customers in Malaysia to use mobile phone credit cards", Management Research News, 31(7), 493-503.

Amit, R. and Zott, C. (2001), Value Creation in eBusiness, Strategic Management Journal,Vol 22,:,493-520.

Andreoni, J., Erard, B and Feinstein, J (1998), Tax Compliance, Journal of Economic Literature,Vol. 36, No. 2: 818-860

Anuar, S. and Othman, R. (2010), Determinants of online tax payment system in Malaysia, International Journal of Public Information Systems, vol. 1.

Anyakoha, M.W. (1991), "basic librarianship: Modern technologies in information work", Owerri, Totan publisher: 106-108

Anyanfo, A. M. O. (1996), "Public finance in a developing economy: the Nigerian case", Department of Banking and Finance, University of Nigeria, Enugu Campus, Enugu.

Appah, E. and J.K. Oyandonghan,(2011). The challenges of tax mobilization and management in the Nigerian economy. J. Bus. Admin. Manage., 6(2): 128-136.

Appah, E., (2004), Principles and Practice of Nigerian Taxation. Ezevin Mint Printers and Publishers, Port Harcourt.as an Informational Network." Annals of the American Academy of Political and Social.

Ariyo, A. (1997), Productivity of the Nigerian tax system: 1970-1990, Nairobi: Research paper , African Economic Research Consortium.

Ariyo, A. (1997)," productivity of the Nigerian tax system: 1970 – 1990", African economic research bank, banking in Nigeria: an empirical investigation", journal of internet banking

Asante, S. and Baba A (2011), Tax Compliance Among Self-Employed in Ghana: Do Demographic Characteristics Matter?, International Business and Management, 3 (1), 86-91.

Asfaw, M., and Korrapati, R. (2006), "Information and Communication Technologies with Ethopia: Sociopersonal Factors Affecting Adaptation and Use. Allied Academies International Conference", Academy of Information and Management Sciences. Proceedings, 10(2), 21-27.

Asika, N. (2000), "Research methodology in the behavioural sciences", Lagos: Longman Nigeria Plc.

Association of accountancy bodies in West Africa (ABWA, 2009)

Averweg, U. R. (2002), executive information system usage: The impact of web-based technologies, Master of Science dissertation, Faculty of Science and Agriculture, University of Natal, Pietermaritzburg, South Africa.

Ayittey, G. B.N (1998), Africa In Chaos. New York: St. Martin''s Press, 1998

Ayuba, A. J (2014), Impact of Non-Oil Tax Revenue on Economic Growth: The Nigerian Perspective, International Journal of Finance and Accounting, p-ISSN: 2168-4812

Azmi, A. A. C and Kamarulzaman, Y (2010), Adoption of tax e-filing: A conceptual paper, African Journal of Business Management Vol. 4(5):. 599-603

Azmi, A. C, and Bee, N. L (2010), "The Acceptance of the e-Filing System by Malaysian Taxpayers: A Simplified Model", Electronic Journal of e-Government Volume 8 Issue 1: (13 - 22)

Azmi, A.A., and Perumal, K.A. (2008). Tax Fairness Dimensions and Tax Compliance in an Asian Context: The Malaysian Perspective, International Review of Business Research Papers, 4(5), 11-19.

Azmi, A.C, Kamarulzaman Y and Madun A, (2010) "Adoption of tax e-filing: A conceptual paper, Exploring the potential of electronic magazine among internet users". Afr. J. Bus. Manage. 4 (5): 644-650

Babbie, E. R (2007), The Practice of Social Research, 11th edn. Belmont, CA: Wadsworth Publishing Company.

Backhaus, J.G (2005), "computerized taxation and entrepreneurship: an Austrian approach to public finance", J. Econ.Stud., 2 (16): 75-99.

Bagchi, K. (2005), "Factors Contributing to Global Digital Divide: Some Empirical Results", Journal of Global Information Technology Management, 8(3), 47-65.

Bagchi, K. and Udo, G. (2007), "Empirically Testing Factors that Drive ICT Adoption in Africa and OECD Set of Nations", Issues in Information Systems, 8(2), 45-52.

Bagchi, K., Hart, P. and Peterson, M. F. (2004). National Culture and Information Technology Product Adoption. Journal of Global Information Technology Management, 7(4), 29-46.

Bahli B, Benslimane Y (2004), An exploration of wireless computing risks: Development of a risk-taxonomy. Inf. Manage. Comput. Secur. 12(3): 245-254

Bandura, A. (1986), Social foundations of thought and action: A social cognitive theory, Upper Saddle River, NJ: Prentice Hall.

Barjoyai, B. (1987). Taxation: Principle and Practice in Malaysia (Pencukaian Prinsip dan Amalan di Malaysia. Kuala Lumpur: Dewan Bahasa dan Pustaka

Barnes, S.J. and Vidgen, R.T (2006), "Data triangulation and web quality metrics: A case study in e-government", Information and Management, volume 43, Issue 6, September 2006: 767–777

Basu S. (2004), "E-government and developing countries: an overview''. International Review of Law Computers &and Technology, 18(1): 109–132.

Belanger, F. and Carter, L. (2008), "Trust and risk in e-government adoption", Journal of Strategic, Information System, 17, 165-176.

Belengar, F., Hiller, J. S. and Smith, W.J. (2002),"trustworthy in electronic commerce the role of privacy, security and site attributes", J. strategic information systems, 11:245-270.

Benbasat, I., and Barki, H. (2007), "Quo Vadis, TAM?" Journal of the Association for Information Systems (8:4), April 2007: 211-218.

Benk S. and Budka T. (2011), The Acceptance of Tax Office Automation System (VEDOP) By Employees: Factorial Validation of Turkish Adapted Technology Acceptance Model (TAM).

Berdykhanova, D., Dehghantanha, A. and Hariraj, K. (2010), "Trust challenges and issues of e-government: e-tax prospective", International Journal of Computer Science Security, Vol. 8 No. 7: 62-66.

Bhartia, H. L. (2009), "Public finance", 14th Edn, Vikas Publishing House PVT Ltd, New Delhi.

Bhatnagar, S. (2001), "Philippine Customs Reform", The World Bank,

Bhatnagar, S. (2002), E-government: Lessons from Implementation in Developing Countries. Regional Development Dialogue, 24, 164-174.

Bhatnagar, S. (2003b). Public Service Delivery: does e-governmente-Government help? Annual bank conference on development economics, 11-20.

Bhattacherjee, A and Sanford, C (2006), Influence processes for information technology acceptance: an elaboration likelihood model, MIS Quarterly Vol. 30 No. 4: 805-825

Bird, R (1996), "Why Tax Corporations?" Working Paper 96-2, prepared for the

Bird, R. M. (1986), "A view from the North," Tax Law Review, 49 (1986), 745-57.

Bird, R. M. (2003), "Administrative Dimensions of Tax Reform." International Tax Program Paper 0302, online: University of Toronto.

Bird, R. M. and Zolt, E. M. (2008), "Technology and taxation in developing countries: from hand to mouse", National Tax Journal, vol.lx1 (4), part 2.

Blaikie, N. W. H.(2006), "A critique of the use of triangulation in social research, in Research Design", edited by, de Vaus, D., Sage Benchmarks in Social Research Methods, Sage Publications, London, 331-354, 2006.

Boame, A (2008), Individual Tax Compliance: A Time-Series Regression Using Canadian Data, 1987-2003, Canada Revenue Agency Baseline Research Paper.

Boame, A (2009), “A Panel Analysis of Behavior Change in Individual Income Tax Compliance”, Recent Research on Tax Administration and Compliance, IRS Research Bulletin

Bogdan, R. C. and Biklen, S. K. (1982), Qualitative Research for Education: An Introduction to Theory and Methods, Boston: Allyn and Bacon.

Bond, E.. and Samuelson, L. (1989), “Strategic behaviour and the rules for international taxation of capital,” Economic Journal, 99: 1099-1111.

Bonham, G., Seifert, J., and Thorson, S. (2001), The transformational potential of e-government: The role of political leadership. Electronic Governance and Information Policy (Panel 9-1) at the 4th Pan European International Relations Conference of the European Consortium for Political Research

Bonham, G.M, Seifert, J.W., and Thorson, S.J. (2003), “the transformational potential”

Booz, A. H (2005), fraud detection improved significantly by automation, an international journal

Booz, A. H. (2006), beyond e-government: the world’s most successful technology-enabled transactions.

Booze, R. Allen, J. and Hamilton, M E (2007), customs automation in Sub Saharan Africa.

Bose, R. (2004),”e-government: infrastructure and technologies for education and training, electronic government”, an international journal, 1, 4, 349-361.

Boylan, S. J. (2010), “Prior audits and taxpayer compliance: experimental evidence on the effect of earned versus endowed income”, American Accounting Association, vol. 32, No. 2, 2010.

Bra¨utigam, O.H. Fjeldstad and Moore, M (2008), Capacity and Consent: taxation and state building in developing countries. Cambridge University Press, 212–34

Brandstetter, L. and Jacob, M. (2013) “Do Corporate Tax Cuts Increase Investments?” Arbeitskreis Quantitative Steuerlehre Quantitative Research in Taxation – Discussion Papers arqus Discussion Paper No. 153 December, 2013

Brown, R. E. and Mazur, M. J. (2003), “Internal revenue service comprehensive approach to compliance measurement”, IRS white paper, Washington D.C.

Brown, S. A, Dennis, A. R and Venkatesh, V (2010), 'Predicting Collaboration Technology Use: Integrating Technology Adoption and Collaboration Research', Journal of Management Information Systems, vol. 27(2): 9-53.

Bruce, N. (1992), "a note on the taxation of international capital income flows," Economic Record, 68: 217-21.

Bryman, A. (2008), "Quantitative and Qualitative Research: Further Reflections on their Integration, in Research Design", edited by de Vaus, D. Sage Benchmarks in Social Research Methods, Sage Publications, London, 355-375..

Bryman, A., and Cramer, D. (2001), Quantitative data analysis with SPSS Release 10 for Windows: A guide for social scientists, London: Routledge

Buettner, T. and Fuest, C. (2010), "The role of the corporate income tax as an automatic stabilizer", International tax and Public Finance, Vol. 17(6).

Burton-Jones, A. and Hubona, G. S (2006), "Reconceptualising System Usage: An Approach and Empirical Test," Information Systems Research (17:3):228-246.

Burton-Jones, A. and Hubona, G. S. (2006), the mediation of external variables in the technology acceptance model, Information and Management 43 (2006) 706–717

Bwalya, K. J. (2009), "Factors affecting adoption of e-government in Zambia", The Electronic Journal on Information Systems in Developing Countries, EJISDC 38, 4: 1-13.

Cakir H., Bichelmeyer, B. A.,and Cagiltay K. (2002), Effects of cultural differences on e-mail communication in multicultural environments, paper presented in CATAC'02 International Conference on Cultural Attitudes towards Technology and Communication, Montreal, Canada

Cakmak AF, Cevik EI (2010), "Cognitive emotion regulation questionnaire: Development of Turkish version of 18-item short form" Afr. J. Bus. Manage., 4(10): 2097-2102

Çakmak, A. F, Benk, S. and Budak, T (2011), "The acceptance of tax office automation system (vedop) by employees: factorial validation of Turkish adapted technology acceptance model (TAM)" international journal of economics and finance, vol. 3, No. 6; November 2011.

Carmines, E. G. and Zeller, R. A. (1979), Reliability and validity assessment, Sage Publications, Beverly Hills, CA

Carter L, Schaupp LC, Evans A (2008), Antecedents of e-File adoption: the US Perspective. Retrieved April 20, 2009,.

Carter, L and Weerakkody, V. (2008), E-Government Adoption: A Cultural Comparison, Information Systems Frontiers, Springer, 10(4) , : 473-482.

Carter, L. and Belanger, F. (2005), "The utilization of e-government services: citizen trust, innovation and acceptance", Information Systems Journal, 15, 5-25.

Carter, L. and Belanger, F. (2005), The utilization of e-Government services: citizen trust, innovation and acceptance. Information Systems Journal, 15, 5-25.

Carter, L., Schaupp, L., and Evans, A. (2008), Antecedents to E-File Adoption: The US Perspective, Presented at the Hawaii International Conference on System Sciences, Proceedings of the 41st Annual, 216-216.

Carter, L., Shaupp, L.C., Hobbs, J. and Campbell, R. (2011), 'The role of security and trust in the adoption of online tax filing', Transforming Government: People, Process and Policy, Vol. 5, No. 4:303–318

CEFP (2007), Council of Economic and Fiscal Policy April 2007 reports.

Centeno, C., Bavel, R. and Burgelman J. C. (2004), "E-government in the EU in the next decade: Vision and Key Challenges" European Commission, DG JRC, Institute for Prospective Technological studies.

Central Bank of Nigeria (2011), Economic report fourth quarter 2010

Central Excise. International Journal of Electronic Government Research, 3(3), 1-21.

Cetin, Y., Kanat, I. E. and Ozcan, S. (2011) Systematic review of e-governmente-Government adoption research. IN Ghoneim, A., Weerakkody, V. &and Kamal, M. (Eds.) Proceedings of the 2nd Transforming Government (Gov) International Workshop, March 17 and 18 2011. University of Brunel, London, United Kingdom.

Chang, I., Li, Y., Hung, W. and Hung, H.(2005), "An empirical study on the impact of quality antecedents on taxpayers'' acceptance of internet tax filing systems'', Government Information Quarterly, vol. 22, no. 3, : 389-410.

Chang, I.C., LI, Y.C., Hung, W.F., and Hwang, H.G. (2005), "An empirical study on the impact of quality antecedents on tax payer taxpayers'' acceptance of internet tax filing systems", Government Information Quarterly, 22, 389-410.

Chang, L. (2002), Cross-Cultural Differences in International Management using Kluckhohn-Strodtbeck framework. Journal of American Academy Business, Vol. 2, Issue. 1.

Chatama, Y. J. (2013), The impact of ICT on Taxation: the case of Large Taxpayer Department of Tanzania Revenue Authority, Developing Country Studies, 3 (2), 91:100.

Chatfield, A. and Alhujran, O. (2009) "A Cross-Country Comparative Analysis of eGovernment Service Delivery among Arab Countries", Information Technology for Development, vol. 15, no. 3, : 151-170.

Chatfield, A.T (2009). "Public Service Reform through e-Government: a Case Study of ''e-Tax'' in Japan." Electronic. Journal of e-Government Volume 7 Issue 2 2009.

Chau, P. Y. K., and Hu, P. J. H. (2001), "Information Technology Acceptance by Individual Professional: A Model Comparison Approach", Decision Science, 32(4): 699-719.

Chau, P.Y.K. (1996), "An empirical investigation on factors affecting the acceptance of CASE by systems developers", Information and Management: 269–280.

Chau, P.Y.K., and P.J. Hu (2002), "Investigating Healthcare Professionals' Decisions to Accept Telemedicine Technology: An Empirical Test of Competing Theories" Information and Management 39: 297-311

Chaudhry, I. S. and Munir, F. (2010), "determinants of low tax revenue in Pakistan", Pakistan Journal of Social Sciences, Vol. 30, No. 2 (December 2010): 439-452.

Che – Azmi, A. A., and Kamarulzaman, Y. (2010), "Adoption of Tax e- Filing: A conceptual paper" African Journal of Business Management Vol. 4(5), : 599-603, May 2010.

Chen, C., Tseng, S. and Huang, H. (2006). A comprehensive study of the digital divide phenomenon in Taiwanese government agencies. International Journal of internet And Enterprise Management, 4(3), 244-256

Chen, H.H. and Chen, S.C. (2009), "The empirical study of automotive telematics acceptance in Taiwan: Comparing three technology acceptance models", International Journal of Mobile Communications, Vol. 7, No. 1:50-65. 7.

Chen, K., Chen, J. V., and Yen, D. C. (2011), "Factors influencing the business adoption of online tax payment services", Journal of Global information Management , 1-18.

Chen, L. (2000), Consumer acceptance of virtual stores: A theoretical model and critical success factors for virtual stores, Memphis: University of Memphis

Chen, L., Gillenson, M., and Sherrell, D. (2002), Enticing online consumers: An extended technology acceptance perspective, Information and Management, 39, 705719.

Chen, S. and Chang, T. (2003), A descriptive model of online shopping process: some empirical results. International Journal of Service Industry Management, 14(5): 556-569.

Chen, S. and Huang, C.(2006), Determinants of satisfaction and continuance intention towards self-service technologies Department of Information Management, Tatung University, Taipei, Taiwan

Chen, S.C., Chen, H.H., and Chen, M.F. (2009), "Determinants of Satisfaction and Continuance Intention towards Self-service Technologies", Industrial Management & Data Systems, Vol. 109, No. 9: 1248-1263. 8.

Chen, Y. N., Chen, H. M., Huang, W and Ching, R. K. H. (2006), E-government strategies in developed and developing countries: An implementation framework and case study. Journal of Global Information Management, 14(1), 23−46

Chen, Y., Chen, H. Huang, W and Ching, R. (2006), E-Government Strategies in Developed and Developing Countries: An Implementation Framework and Case Study‘’, Journal of Global Information Management. Idea Group.

Chen, Z. and Dubinsky, A.J. (2006), A conceptual model of perceived customer value in e-commerce: A preliminary investigation. Psychology and Marketing, 20(4), 323-347

Chêne M. (2012), “Use of mobile phones to detect and deter corruption, Transparency International”, Anti-corruption Resource Centre.

Chiang, L. (2009). “Trust and security in the e-voting system’’. Electronic Government, An International Journal, 6(4): 343–360.

Chiemeke and Evwiekpaefe (2011), “A conceptual framework of a modified unified theory of acceptance and use of technology (UTAUT) Model with Nigerian factors in E-commerce adoption”, Department of Computer Science, University of Benin, Benin City, Nigeria.

Chiemeke, S.C., Evwiekpaefe, A.E., and Chete, F.O. (2006),” the adoption of internet

Chircu, A. M. (2008), “E-government evaluation: towards a multidimensional framework”, in Electronic Government, an International Journal, vol. 5: 345-363.

Chisnall, P. M (1991), The essence of marketing research, London, Prentice Hall international.

Chiu, C.M., Sun, S.Y., et al. (2007), An empirical analysis of the antecedents of web-based learning continuance, Computers and Education, 49(4), 1224–1245

Chiu, Y.B., Lin, C.P. and Tang, L.L. (2005), “Gender differs: Assessing a model of online purchase intentions in e-tail service”, International Journal of Service Industry Management, Vol. 16, No. 5: 416-435

Chou T-C and Hsu L-L. (2004). “Managing industry enabled e-governmente-Government: lessons learned from the IT industry in Taiwan’’. Electronic Government, An International Journal, 1(3): 335–348.

Choudrie J., Wisal J and Ghinea G. (2009), “Evaluating the usability of developing countries’’ e-governmente-Government sites: a user perspective’’. Electronic Government, an International Journal, 6(3): 265–281.

Choudrie, J. and Dwivedi, Y. (2005) “A Survey of Citizens’’ Awareness and Adoption of e-governmente-Government Initiatives, the “Government Gateway’’: A United Kingdom Per-

spective", in e-governmente-Government Workshop ''05 (eGOV05), Brunel University, London, UK Countries IDPM, University of Manchester, UK.

Choudrie, J. and Dwivedi, Y. K. (2006), Examining the socio-economic determinants of broadband adopters and non-adopters in the United Kingdom, Proceedings of the 39th Annual Hawaii International Conference on System Sciences, January 4-7, IEEE Computer Society Press, 10 pages. 3.

Choudrie, J. and Dwivedi, Y. K. (2006), Investigating factors influencing adoption of broadband in the household, forthcoming in the Journal of Computer Information Systems, 46, 4,

Chu, P. and Wu, T. (2004), "Factors Influencing Tax-Payer Information Usage Behaviour: Test of An Integrated Model", Institute of Public Affairs Management National Sun Yat-sen University Kaohsiung, Taiwan.

Chuttur, M. (2009), Overview of the Technology Acceptance Model: Origins, Developments and Future Directions, Working Papers on Information Systems ISSN 1535-6078.

Chuttur, M. Y. (2009), "Overview of the Technology Acceptance Model: Origins,

CIA: world factbook (2005), "country report – Nigeria", retrieved August 1, 2005 commerce, 11, 3, 1-10, consortium (aerc) research paper 67, Nairobi Kenya, development economics research, January 2006: United Nations University.

CIAT (2009), "a modern vision of the tax administration", resolution of the 43rd CIAT

CITN (Chartered Institute of Taxation of Nigeria) (2002), 'CITN Nigerian Tax Guide Statutes', Lagos the chartered Institute of taxation of Nigeria.

Ciborra, C. (2005), "From Control to Drift: The Dynamics of Corporate Information Infrastructure", Oxford: Oxford University Press.

Clausing, K.A. (2006), 'Corporate tax revenues in OECD countries', International Tax and

Colesca, S. E., and Liliana, D. (2008), "E-government adoption in Romania", Paper presented at the Proceedings of World Academy of Science, Engineering and Technology.

Collins, J. H., Millron, V. C and Toy, R. D (1992), Determinants of Tax Compliance: A Contingency Approach, The Journal of the American Taxation Association, 1-29.

Collins, K. M. T., Onwuegbuzie, A. J., and Jiao, Q. G. (2006), Prevalence of mixed methods sampling designs in social science research. Evaluation and Research in Education, 19, 83-101.

Companies Income Tax Act (CITA) CAP 22 1960

Companies Income Tax Act (CITA) CAP 28 of 1979

Companies Income Tax Act (CITA) CAP 60 the Laws of the Federation of Nigeria (LFN) 1990

Companies Income Tax Act (CITA) CAP C21 the Laws of the Federation of Nigeria (LFN) 2004

Companies Income Tax Act (CITA) the Laws of the Federation of Nigeria (LFN) No. 11 of 2007

Companies Income Tax Ordinance No 14 of 1939

Compeau, D.R., and Higgins, C.A. (1995b), Computer self-efficacy: Development of a measure and initial test, MIS Quarterly, 19(2), 189-211

Conner, M and Armitage, C. J. (1998), "The Theory of Planned Behaviour: Assessment of Predictive Validity and 'Perceived Control,'" British Journal of Social Psychology, 38: 35–54.

Connolly, R and Bannister, F (2010), Government website service quality: a study of the Irish revenue online service, European Journal of Information Systems 19, 649-667

Connolly, R., Bannister, F., and Kearney, A. (2010), "Government website service quality: a study of the Irish revenue online service. European Journal of Information Systems, 19(6), 649-667.

Connolly, R., Bannister, F., and Kearney, A. (2010), "Government website service quality: a study of the Irish revenue online service. European Journal of Information Systems, 19(6), 649-667.

Cooper, D. R. and Schindler, P. S. (1998), Business research method, New York: McGraw-Hill.

Cooper, D. R. and Schindler, P. S. (2006), Marketing Research, New York: McGraw-Hill.

Cooper, R. B. and R. W. Zmud (1990), "Information Technology Implementation Research: A Technological Diffusion Approach", Management Science (36)2: 123–139.

Crede, A (1998), Knowledge societies… in a nutshell: Information technologies for sustainable development. Ottawa, Canada: IDRC.

Creswell, J. (2003), "Research design qualitative, quantitative and mixed methods approaches (2nd ed.), Sage, Thousand Oaks.

Creswell, J. (2003), "Research design, qualitative, quantitative and mixed methods approaches (2nd ed.), sage, thousand oaks.

Creswell, J. W and Clark, V. P (2007), Designing and conducting mixed methods research university of Nebraska-Lincoln.

Creswell, J. W. (2003), Research Design: Qualitative, Quantitative, and Mixed Methods Approaches, SAGE Publications, Thousand Oaks, CA

Creswell, J. W.(2009), Research design: Qualitative, quantitative, and mixed method approaches, Sage Publications Ltd, 6 Bonhill Street, London, EC2A 4PU, United Kingdom

Criado, J.I. and Ramilo, M.C. (2003), 'E-Government in practice. An analysis of web site orientation to the citizens in Spanish municipalities", The International Journal of Public Sector Management, 126(3):191-218.

Criado, J.I. and Ramilo, M.C. (2003), 'E-Government in practice. An analysis of web site orientation to the citizens in Spanish municipalities", The International Journal of Public Sector Management, 126(3):191-218

Crotty, M. (1998),The foundations of social research, Crows Nest, Australia: Allen and Unwin

Cuieford, J. P. (1965), "Fundamental statistics in psychology and education", (4th ed.), New York: McGraw Hill

Cuieford, J. P. (1965), Fundamental statistics in psychology and education (4th ed.), New York: McGraw Hill

Dabholkar, P. (1994), Technology based service delivery, Advances in Service Marketing and Management, 3(1): 241-71.

Dada D. (2006), "The Failure of E-Government in Developing Countries''

Dada, D. (2007), The Failure of E-government in Developing Countries: A Literature Review. The Electronic Journal on Information Systems in Developing Countries, Vol. 26, no. 1: 1 -10.

Dada, J. (2007). Global Information Society Watch 2007 Report, Global Information Society Watch.

Dadayan, L. and Ferro, E. (2005). "When technology meets the mind: a comparative study of the technology acceptance model. In M. A. Wimmer, R. Traunmuller, A. Gronlund and K. V. Andersen (Eds.), Electronic Government, Proceedings (Vol. 3591: 137-144)

Dalton, H., (1947), “Principle of public finance”, Routledge and Kegan Paul Limited Broadway House: 68-701 Carter Lane, E.C.

Das-Gupta, A., Ghosh, S., and Mookherjee D. (2004), “Tax AdministrationTA Reform and Taxpayer Compliance in India”, International Tax and Public Finance, 11, 575–600, 2004.

Das-Gupta, A., Mookerjhee, D. and Panta, D.P (1992), “Income Tax Enforcement in India: A Preliminary Analysis.” New Delhi: National Institute of Public Finance and Policy.

Davidsson, B and Patel R (2003), SPSS Survival manual, Open University Press.

Davis F. D. and Morris M. G. (2007), “Dead or Alive?” The development, trajectory and future of technology adoption research, Journal of the Association for Information Systems

Davis, F. D, Bagozzi, R and Warshaw, P.R. (1989), “User acceptance of computer technology: a comparison of two theoretical models”, Management Science 35 (8):982–1003

Davis, F. D. (1989), “Perceived usefulness, perceived ease of use, and user acceptance of technology”.

Davis, F. D. (1989), “Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology”, MIS Quarterly (13)3: 319–342.

Davis, F. D., Bagozzi, R. P., and Warshaw, P. R (1992), “Extrinsic and Intrinsic Motivation to Use Computers in the Workplace,” Journal of Applied Social Psychology (22:14):1111-1132

Davis, F.D, Bagozzi, R.P and Warshaw, P.R (1989), 'User Acceptance of Computer Technology: A Comparison of Two theoretical Models', Management Sciences, vol. 35(8):. 982-1002

DC: World Bank.

De Wulf, L. and Sokol, J.B (2005), Customs Modernization Handbook, The World Bank, Washington, D.C..

Decman, M., Stare, J. and Klun, M. (2010) “E-Government and Cost-Effectiveness E-taxation in Delhi,” Musgrave, Public Finance delivery, Government Finance Review, 16, 21-22.

Decman, M., Stare, J. and Klun, M.,(2006) “E-Government and Cost-Effectiveness E-taxation in Delhi, Musgrave, Public Finance delivery. Government Finance Review, 16, 21-22, Tapscott, D.

Deloite and Touche (2002), The citizen as a customer, CMA Management, 74(10), 58.

Deloitte Research. (2002), Through the Portal: Enterprise transformation for e--Government, Deloitte and Touche

DeLone, W. H. and E. R. McLean (1992), "Information Systems Success: The Quest for the Dependent Variable", Information Systems Research (3)1: 60–95

DeLone, W. H., and McLean, E. R. (2003), The DeLone and McLean model of information systems success: A tenyear update, Journal of Management Information Systems, 19(4), 9−30.

DeLone, W.H., and McLean, E.R (1992), Information systems success: The quest for the dependent variable, Information Systems Research, 3, 1:60–95

Delucia, G. (2000), Electronic tax systems ease filing, American City and County, October, 115 (14), 12.

Demchak, C.C., Friis, C.and La Porte, T.M. (2000), Webbing Governance: National Differences in Constructing the Public Face., in G.D. Garson (Ed.), Handbook of Public Information Systems :. 179–196, New York: Marcel Dekker.

Deng, H (2008), Towards objective benchmarking of electronic government: An inter-country analysis, Transforming Government: People, Process and Policy, 2(3), 162-176.

Denscombe, M. (2008), The Good Research Guide 3rd edition, Open University Press.

Denzin, N. K. (2006), strategies of Multiple Triangulations, in Research Designs, edited by de Vaus, D., Sage Publications, London, 309-330, 2006.

DeVellis, R.F (2003), Scale development: theory and applications, Thousand Oaks, Calif: SAGE Publications.,Developments and Future Directions," Indiana University, USA

Devereux, M. P., Griffith, R. and Klemm, A. (2004), "Why has the UK corporation tax raised so much revenue?", Fiscal Studies (2004) vol. 25, no. 4: 367–388, Institute for Fiscal Studies, 2004.

DeZoort, D.T Harrison, P. D and Schnee, E J (2012),"tax professionals'' responsibility for fraud detection: the effects of engagement type and audit status", accounting horizons, American accounting association Vol. 26, No. 2: 289–306 2012.

Dike, M. A. (2014), Public accountability to the people and tax compliance, a seminar on the 2014 Federal Government Budget, Thisday Nigeria newspaper Ltd, Apapa, Lagos, Lagos State.

Dimitrova, D. and Chen, Y. C. (2006). Profiling the adopters of e-governmente-Government information services: the influence of psychological characteristics, civic mindedness, and information channels. Social

Dimitrova, D. V., and Chen, Y. C. (2006), Profiling the adopters of e-government information and services: The influence of psychological characteristics, civic mindedness, and information channels. Social Science Computer Review, 24(2), 172-188.

Dishaw, M.T. Strong, D.M. (1999), "Extending the technology acceptance model with task-technology fit constructs", Information and Management 36: 9–21.

Dodd, J. (2000), delivering on the e--Government promise, a government technology industry profile.

Doran, M. (2009), "Tax Penalties and Tax Compliance", Harvard Journal on Legislation, Vol. 46, 2009.

Dorasamy, M, Marimuthu, M, Raman, M and Kaliannan, M (2010), E-Government Services Online: An Exploratory Study on Tax E-Filing in Malaysia, International Journal of Electronic Government Research

Dorasamy, M., Marimuthu, M., Raman, M. and Kaliannan, M. (2010), "E-government services online: an exploratory study on tax e-filing in Malaysia", International Journal of Electronic Government Research, Vol. 6 No. 4: 12-24

Dorasamy, M., Marimuthu, M., Raman, M., and Kaliannan,M.(2010), e-governmente-Government services

Dovkota, K. P. (2010), "a study on taxpayers'' satisfaction level in Nepal revenue administration support project (ras), a joint project of the inland revenue department ministry of finance and the German technical cooperation .

Dubin, R. (1978), Theory building (revised edition), the Free Press, New York.

Dutt, S (2004), "An Analysis of the Diffusion of Information and Communication Technologies of Nations", The Global Information Technology Report, Geneva: World Economic Forum

Dutta, S., Zbaracki, M. J. and Bergen, M. (2003), Pricing process as a capability: a resource-based perspective Strategic Management Journal Strat. Mgmt. J., 24: 615–630 (2003).

Dwivedi, Y and Irani, Z.(2009), "Understanding the Adopters and Non-adopters of Broad-band," Communications of the ACM, (52:1), 2009: 122-125

Dymond, S., Cella, M., Cooper, A., Turnbull, O. H. (2010), "the contingency shifting variant Iowa Gambling Task: An investigation with young adults", J. Clin. Exp. Neuropsychol. 32 (3), 239–248.

Easterby-Smith, M., Thorpe, R. and Lowe, A. (1991), Management Research, 3rd ed, Sage Publications Ltd, London.

Easterby-Smith, M., Thorpe, R. and Lowe, A. (2008), Management Research, 3rd ed, Sage Publications Ltd, London.

Edgar, R and Sanders, R (2005), Corporate Income Taxes and the Cost of Capital: A Correction. American Economic Review, 53(3), 433-443.

Edwards-Dowe, D.(2008), "E-Filing and E-Payments – The Way Forward, Paper Presented at Caribbean Organisation of Tax Administration TA (COTA)"General Assembly Belize City, Belize July 2008.

e-Government development in Africa: A case study of South Africa's Cape Gateway project, Government Information Quarterly, 25, 757−777.

Eining, M. and Owen, L. (1994), "Accounting information systems", International Accounting; Research priorities for the 1990's, American accounting association, International section.

Emory, C. W. and Cooper, D. R. (1991), Business Research Methods, (4th ed), Boston, MA: Irvin.

Engelschalk, M (2000), Computerizing Tax and Customs Administration, PREM Note No. 44, World Bank, Washington, D.C

Engelschalk, M. (2004), "Creating a favourable tax environment for small business," In Taxing the Hard-to-Tax: Lessons from Theory and Practice, edited by James Alm, James, Jorge Martinez-Vazquez, and Sally Wallace, 275-312, Amsterdam: Elsevier, 2004.

Engman, M. (2005), "The Economic Impact of Trade Facilitation", OECD Trade Policy Papers, No. 21, OECD Publishing

Ermasova, N (2009), Tax reform of corporate income tax on state level, Social Science Research Network.

Esselaar, S., Stork, C., Ndiwalana, A. and Deen-Swarray, M. (2008), "ICT Usage and ITs Impact on Profitability of SMEs in 13 African Countries", the MIT Press 2008, and Vol. 4(1): 87–100

Esteller-More (2011), Is the tax administration just a money machine? Empirical evidence on redistributive politics, Economics of Governance

Esteller-Moré, A (2011), "is the tax administration (TA) just a money machine? empirical evidence on redistributive politics" institute economia de Barcelona (IEB), Universitat de Barcelona (UB), Barcelona, Spain.

Eugene, N. B. (2011), improving revenue collection through tax audit practice: the case of Ghana revenue authority.

Evans, D. and Yen, D. C. (2006), e-Government: evolving relationship of citizens and government, domestic, and international development. Government Information Quarterly, 23(2): 207-235.

Fakile, A. S (2011), Analysis of Tax Morale and Tax Compliance in Nigeria, Department Of Accounting, Covenant University, Ota, Ogun State

Fakile, A.S (2011), Company Income Tax and Nigeria Economic Development, European Journal of Social Sciences, 22 (2): 309-32.

Faniran, S. and Olaniyan, K. (2009), "e-governance diffusion in Nigeria: the case for citizens' demand", paper presented at the 3rd international conference on theory and practice of electronic governance, Bogota, Colombia.

Fayemi, K. (2013), Governors' Forum holds retreat for 36 governors, in Sokoto, Premium Time, Nigeria.

Federal Inland Revenue Service (2012), A Dynamic Structure that Adapts to the Times, Guage, A Quarterly Publication of the Federal Inland Revenue Service January - March, 2012

Finance Miscellaneous Taxation Provisions (No2) Decree No 19 of 1998.

Findlay, C., C. (1986), "Optimal Taxation of International income flows," Economic Record, 62:208-14.

Fischer, T. (2013), Complements and substitutes in profiting from innovation—A choice experimental approach. Research Policy 42326-339

Fishbein, M. and I. Ajzen (1975), Belief, Attitude, Intention, and Behaviour: An Introduction to Theory and Research, Reading, MA: Addison-Wesley.

Fjeldstad, O. (2003), "Fighting Fiscal Corruption: Lessons from The Tanzania Revenue Authority", Public Administration and Development, Public Admin. Dev. 23, 165–175 (2003), published online in Wiley InterScience.

Fjeldstad, O. (2005), "Corruption in Tax AdministrationTA: Lessons from Institutional Reforms in Uganda", Chr. Michelsen Institute P.O. Box 6033 Postterminalen, N-5892 Bergen, Norway.

Fjeldstad, O.H (2003), 'Fighting fiscal corruption: lessons from the Tanzania Revenue Authority', Public Administration and Development 23, 2: 165–75

Fjeldstad, O.H (2006), 'Corruption in tax administration: lessons from institutional reforms in Uganda', in S. Rose-Ackerman, ed. International Handbook on the Economics of Corruption, Cheltenham, UK & Northampton, MA: Edward Elgar, 484–511

Fjeldstad, O-H and Moore M.,(2008), "Tax Reform and State-Building in a Globalised World'', in Brautigam, D., Fjeldstad, O-H and M. Moore (Eds) Taxation and State-Building in Developing Countries: Capacity and Consent, Cambridge University Press, Cambridge, pp. 235-260,: 247-248

Flamholtz, E. and Randle, Y. (1998), "Changing the Game: Organisational Transformations of the First, Second, and Third Kinds", Oxford University Press, London

Folorunso, O., Awe, O. G., Sharma, S. K. and Jeff, Z.(2006), "Factors affecting the adoption of e-commerce: a study in Nigeria", journal of applied sciences 6(10): 2224-2230, 2006.

Forrester Research Inc. (2001), eFiling Kick-Starts Government.

Fountain, J. E. (2001), Building the virtual state, Brookings Institution Press Washington, DC.

Fox P (2001), "automation: crossing the final frontier". J. Autom., 21(2): 200-223

FRN (Federal Republic of Nigeria) (1997), Report of the vision 2010 Committee Abuja: Federal public of Nigeria, 60 -75

FRN (federal republic of Nigeria) (1999), '1999 constitution of the federal republic of Nigeria', Federal republic of Nigeria official gazette, 27 (86) Lagos.

Fu, J. R., Farn, C. K. and Chao, W. P. (2004). "Determinants of taxpayers' adoption ofelectronic filing methods in Taiwan: An exploratory study", Information & Management, 30. 658-683.

Fu, J.R, Farn, C.K and Chao, W.P. (2006), "Acceptance of electronic tax filing: a study of taxpayer intention", Inform. Manage. 43, 109-126.

G8 DOT Force (2001), Issue objectives for the Genoa summit meeting 2001: DOT force.

Gage, J. (2002), "Some thoughts on how ICTs could really change the world, in the global information technology report 2001-2002: readiness for the networked world", center for international development, Harvard University.

Gallagher, M., (2005), "Benchmarking Tax Systems", Public Administration and Development. 25: 125-144.

Galliers, R. (1991), Choosing appropriate information systems research methodologies: a revised taxonomy, R. Galliers, Information Systems Research: Contemporary Approaches and Emergent Traditions, Amsterdam: North Holland.

Galliers, R. D. (1992), “Choosing Appropriate Information Systems Research Approaches: A Revised Taxonomy”, In R. D. Galliers (Ed.), Information Systems Research: issues, methods and practical guidelines: 144-162, Oxford: Blackwell Scientific.

Gant, J. P. (2008), “Electronic Government for Developing Countries”, Geneva, ITU.

Gant, J., and Gant, D. (2002), Web portal functionality and State government E-service.

Geetanjali, U. (2011), “ICT application in service delivery: a case of Inland Revenue department”, NEPAL, Department of General and Continuing Education, North South University, Bangladesh.

Gefen, D. (2002), “Nurturing clients’ trust to encourage engagement success during the customisation of ERP systems”, Omega (30:4): 287-299.General Assembly, Santo Domingo: CIAT, 2009.

Gefen, D. and D. Straub (2000), "The Relative Importance of Perceived Ease-of Use in IS Adoption: A Study of e-Commerce Adoption," JAIS (forthcoming), Communications of AIS.

Gefen, D., and Straub, D. W. (1997), Gender differences in the perception and use of e-mail: An extension to the technology acceptance model, MIS Quarterly, 21(4), 389-400.

Gefen, D., Karahanna, E. and Straub, D. (2003), Trust and TAM in online shopping: an integrated model. MIS Quarterly, 27, 51–90.

Gemmell, N. and Ratto, M. (2012), “Behavioural responses to taxpayer audits: evidence from random taxpayer inquiries”, National Tax Journal, March 2012, 65 (1), 33–58

Gerson, K. and Horowitz, R. (2002), Observation and Interviewing: Options and Choices in Qualitative Research, Qualitative Research in Action, ed May, T. London/Thousand Oaks/New Delhi: Sage Publications: 199-224.

Ghobakhloo, M., Zulkifli, N. B. and Aziz, F. A. (2010), “The interactive model of User information technology acceptance and satisfaction in small and medium-sized enterprises”, European Journal of Economics, Finance and Administrative Sciences, 19(1), 7-27.

Ghobakhloo, M.; Benitez-Amado, J.; Arias-Aranda, D (2011), Reasons for Information Technology Adoption and Sophistication within Manufacturing SMEs, In the POMS 22nd Annual Conference: Operations Management: The Enabling Link, Reno, NV, USA,

Gilbert, D. and Balestrini, P. (2004), “Barriers and benefits in the adoption of e-government”, The International Journal of Public Sector Management, 17(4), 286-301.

Gill, J., (2003), “The Nuts and Bolts of Revenue Administration Reform”, World Bank.

Gillham, B. (2000), “developing a questionnaire”, London.

Githinji, R. K., Mwaniki, M., Kirwa, K. J. and Mutongwa, S. M. (2014), information and communication technology (ICT) on revenue collection by Kenyan Counties, International Journal of Academic Research in Business and Social Sciences, November 2014, Vol. 4, No. 11

Goch D (2008). "Computerised Taxation and Finance", Management Decision, 3 (2): 89-119.

Goel, R.K. (2007), "cigarette smuggling: price vs. nonprime incentives", applied economics letters ,vol. 15 No. 8, :587-92.

Golra, N (2008), Hurdles in rural e-government projects in India: Lessons for developing countries, Electronic Government, An International Journal, 5(1), 91-102

Goode, R. (1992), "reconstruction of foreign tax system", proceedings the 44th annual conference on taxation, national tax association secretariat,

Gopi, M (2006), "Applicability of theory of planned behaviour in predicting intention to trade online: Some evidence from a developing country", International Journal of Emerging Markets, Vol. 2 Iss: 4:348 – 360

Gray, D. E. (2004),"doing research in the real world", London: sage publications.

Graziano, A. M., and Raulin, M. L. (2004), "Research methods: A process of inquiry", (5th ed.), New York: Pearson Education Group

Green, A and Preston, J. (2005),"editorial: speaking in tongues - diversity in mixed methods research", international journal of social research methodology, 8(3), 167-171.

Green, A. and Preston, J. (2005), "Editorial: speaking in tongues – diversity in mixed methods research", International Journal of Social Research Methodology, 8(3), 167-171.

Green, A. and Preston, J. (2005), "Editorial: Speaking in Tongues – Diversity in Mixed Methods Research", International Journal of Social Research Methodology, Vol. 8, No. 3: 167-171.

Greene, J. C., Caracelli, V. J., and Graham, W. F. (1989), "Toward a conceptual framework for mixed-method evaluation designs, Educational Evaluation and Policy Analysis, 11, 255-274.

Greenwood, C. L, Thapan, A, Ahmed, J. Kertzman, D. Kelly, B and Balbosa J (2008), enhancing revenue collection and strengthening the criminal prosecution of tax evasion cases.

Greenwood, D. J., and M. Levin (1998), Introduction to action research: Social research for social change. London: Sage

Grönlund, A. and Horan, T. (2005), “Introducing e-gov: history, definitions and issues,” Communications of the Association for Information Systems, 15(May), 2005, Article 39

Grönlund, A. and Horan, T. (2005), “Introducing e-gov: history, definitions and issues,” Communications of the Association for Information Systems, 15(May), 2005, Article 39

Guido, S (2007), community revenue collection system

Guillermo, J. (2013), “Detailed Guidelines for Improved Tax Administration in Latin America and the Caribbean”, USAID Leadership in Public Financial Management (LPFM).

Gunning, J.P, (2007), Developments in Economic Theory in Relation to the Subjects of Public Finance.

Gunter, B (2006), Advances in e-democracy: Overview, New Information Perspectives, 58(5), 361-370

Gupta, B, Dasgupta, S and Gupta, A (2011), Adoption of ICT in a government organization in a developing country: An empirical study, Journal of Strategic Information Systems 17: 140–154

Gupta, M. P., and Jana, D. (2003), E-Government evaluation: A framework and case study. Government Information Quarterly, 20(4), 365−387

Gupta, M.P. and Jana, D. (2004), “E-government evaluation: a framework and case study”, Government Information Quarterly, volume 20, Issue 4: 365–387

Ha, S., and Stoel, L. (2009), “Consumer e-shopping acceptance: Antecedents in a technology acceptance model”, Journal of Business Research, Vol. 62 Issue 5, : 565-571.

Hadler, S. C (2000), Best Practice in Tax Administration in Sub-Saharan Africa: a handbook for officials, MA: International Tax Program, Harvard Law School, Cambridge.

Hai, O. T. and See, L. M (2011), intention of tax non-compliance “examine the gaps”, international journal of business and social science Vol. 2 No. 7.

Hai, O.T. and See, L.M. (2011), “Behavioural intention of tax non-compliance among sole-proprietors in Malaysia”, International Journal of Business and Social Science, Vol. 2 No. 6:142-152

Hair, J., Black, B., Babin, B., Anderson, R. and Tatham, R. (2006), “Multivariate Data Analysis”, (6th edition), Upper Saddle River, NJ: Prentice-Hall

Hanefah, M. M. (2007), Tax Systems Taxpayer: Compliance and specific tax issues, Sintok: University Utara Malaysia Press

Harindranath, G and Sein, M. K (2007), Revisiting the role of ICT in development, School of Management Royal Holloway, University of London United Kingdom

Hartman, D. G. (1986), "On the optimal taxation of income in the open economy", working : 1550, National Bureau of Economic Research, Cambridge, Mass.

Hassan, O. M. and Siyanbola, W. O. (2006), "e-governance and capacity building – case study of the local government areas in Ile-Ife, Osun State of Nigeria", national centre for Technology Management (NACETEM) Obafemi Awolowo University Ile-Ife, Nigeria.

Hasseldine, J. (2008), "The search for best practice in tax administrationTA, in C. Evans and M. Walpole (eds), tax administrationTA, Safe Harbours and New Horizons (Birmingham: Fiscal Publications),7-18.

Hatch, M. J. and Cunliffe, A. L. (2006), Organisation Theory, 2nd ed, Oxford University Press, Oxford.

Hayashi, F. (2000), Econometrics, Princeton University Press, Princeton, NJ.

Heeks, R. (1999), Reinventing Government in the Information Age: International practice in IT-enabled public sector reform, New York: Routledge.

Heeks, R. (2002), e-Government in Africa: promise and practice, Institute for Development Policy and Management, Paper No. 13, University of Manchester, the UK.

Heeks, R. (2003) Success and Failure rates of e-governmente-Government in Developing/Transitional

Heeks, R. (2005) e-governmente-Government as a carrier of context. Journal of Public Policy, 25,

Heeks, R. (2006), Implementing and Managing e-government, Sage Publications: 293

Heeks, R. (2006), Implementing and Managing Egovernment: An International Text,

Heeks, R., and C. Kenny (2002), "Is the Internetinternet a Technology of Convergence or Divergence?". Washington,

Heeks, R.and Bailur, S. (2007) Analyzing e-governmente-Government research: perspectives,

Heichlinger, A. (2004), eGovernment in Europe''s Regions: Approaches and Progress

Hill, M. W. (1999), "The impact of information on society". London, Bowker

Hilton, M. (2008), "Using information technology to improve tax and revenue collection", The Institute of Brazilian business and public management issues, Minerva program.

Hirscheim, R. H. (1985), Four Paradigms of information systems development, Comm ACM 32 (10): 1199-1216.

Hirschheim, R. (1985), Information systems epistemology: An historical perspective, In Research Methods in Information Systems. North Holland, Amsterdam : 13-38.

Hitt, L., and Brynjolfsson, E.(1994), The three faces of IT value: Theory and evidence. In J.I. DeGross, S.L. Huff, and M.C. Munro (eds.), Proceedings of the International Conference on Information Systems, Atlanta, GA: Association for Information Systems: 263–278

Ho, A. T. (2002), "E-government: Reinventing local governments and the e-government initiative", Public Administration Review, vol. 62, no. 4: 434-444.

Hodess, R. (2010), "Corruption in Tax Administration (TA)", Transparency International, and 4 January 2010 No 229

Hoffman DL, Novak TP, Chatterjee P (1995), Commercial Scenarios for the Web: Opportunities and Challenges, J. Comput.-Mediated Commun. 1(3): 58-62..

Hofstede, G. (1980), Culture's consequence: International differences in work-related values. Beverly Hills, CA.: Sage.

Hofstede, G. (1997) Cultures and OrganizOrganisations: Software of the Mind, McGraw-Hill, New York

Hofstede, G.(1993), "Cultural Dimensions in People Management" In Pucik, V., Tichy, N.M. and Barnett, C.K. (eds.) Globalizing Management, New York: Wiley: 139–58.

Hofstede, G., and Bond, M. H. (1988), The Confucius connection: From cultural roots to economic growth, Organizational Dynamics, 6(4): 4-2 1

Hollingum, J (2005), Modular Automation Beats the Recession, J.comput, 15 (2): 455-489.

Holmes, D. (2001) Egov: ebusiness strategies for government, London, Nicholas

Holniker, D (2005), Computerization of Commercial Tax System, Int. J. Soc. Econ., 17 (3): 178-213

Holniker, D. (2005), "computerization of commercial tax system, a review of some efficiency and macroeconomic aspects‟ (Chapter 14: 231–263), in V. Tanzi, policies, institutions and the dark side of economics (Cheltenham: Edward Elgar).

Holniker, D. (2005), computerization of commercial tax system.

Holstein, J. and Gubrium, J. (1995), "The active interview, Thousand Oaks", CA: Sage.

Hong, Y. (2005), Asymptotic Theory for Nonparametric Entropy Measures of Serial Dependence, Econometrica, forthcoming

Horst, M., Kuttschreuter, M., and Gutteling, J.M (2007), "Perceived usefulness, personal experiences, risk perception and trust as determinants of adoption of e-government services in The Netherlands," Computers in Human Behaviour (23:4):1838–1852.

Horst, P., Oleg V., Dolomanov, L. J., Bourhis, R. J., Gildea, J. A. and Howard, K. (2007), "A complete structure solution, refinement and analysis program", Journal of Applied Crystallography.

Hossain, L. and de Silva, A. (2009), "Exploring user acceptance of technology using social networks", Journal of High Technology Management Research, 20: 1-18.

Hossain, L., and de Silva, S. (2009), "Exploring user acceptance of technology using social networks", Journal of High Technology Management Research, 20(1), 1–19

Howard, M. (2001), "E-government across the globe: how will 'e' change government?", Government Finance, Rev. 17(4):6-9.

Hsu M, Chiu C (2004), Predicting electronic service continuance with a decomposed theory of planned behaviour. Behav. Inf. Technol. 23 (5): 359-373

Hsu, F.M., and Chen, T.Y (2007), "Understanding Information Systems Usage Behaviour in E-Government: The Role of Context and Perceived Value," Pacific Asia Conference on Information Systems.

Hsu, L.(2005), "The adoption and implementation of Projects-ABCDE (MOEA) – based on Grounded and TAM theory," Electronic Government, an International Journal (2:2): 144–159.

Hu, P.J.H., Brown, S.A., Thong, J.Y.L., Chan, F.K.Y., and Tam, K.Y(2009), "Determinants of Service Quality and Continuance Intention of Online Services: The Case of e-Tax," Journal of the American Society for Information Science and Technology (60:2): 292–306

Huang, M. H. (2003), Designing website attributes to induce experiential encounters. Computers in Human Behaviour, 19(4), 425–442.

Huang, W., Chen, Y. and Wang, K. L. (2006), "E-government development and implementation, Ohio University in the adoption of online tax filing", transforming Government: People, Process and Policy, information technology", MIS Quarterly, 13, 319 – 340.

Huang, W., Siau, K. and Wei, K.K. (2004), Electronic government: Strategic and implementations. Hershey, PA: Idea Group Publishing

Huang, Y.H., Ho, M., Smith, G.S., Chen, P.Y., (2006), Safety climate and self-reported injury: assessing the mediating role of employee self-control, Accident Analysis and Prevention 38, 425–433.

Huang, Z. (2007). A comprehensive analysis of U.S. counties'' e-Government portals: development status and functionalities. European Journal of Information Systems. 16: 149-164.

Hung, S. Y., Chang, C. M. and Yu, T. J. (2006), "Determinants of user acceptance of the e-Government services, the case of online tax filing and payment system", Government Information Quarterly, 23, 97-122.

Hung, S., Chang, C., and Yu., (2006), "Determinants of user acceptance of the e-Government services: The case of online tax filing and payment system", Government Information Quarterly, Vol.23, :.97 -122.

Hussein R., Mohamed N., Ahlan A. R. and Mahmud M. (2010), Transforming Government: People, Process and Policy Emerald Article: E-government application: an integrated model on G2C adoption of online tax.

Hussein R., Mohamed N., Ahlan A. R., Mahmud M. (2010), "Transforming Government: People, Process and Policy Emerald Article: E-government application: an integrated model on G2C adoption of online tax" International Journal of Electronic Government Research: 57-72.

Hussein, R., Mohamed, N., Ahlan, A. R., Mahmud, M. and Aditiawarman, U. (2010), "An Integrated Model on Online Tax Adoption in Malaysia", European, Mediterranean &and Middle Eastern Conference on Information Systems (2010), April 12-13 2010.

Hussey, J. and Hussey, R., (1997), "Business Research", Macmillan Press, London.

Hwang, C. (2000), "A Comparative Study of Tax-Filing Methods: Manual, Internetinternet, and Two-Dimensional Bar Code", Journal of Government Information 27 (2000) 113–127.Commerce in Madagascar, Madagascar.

Ibrahim, I. and Pope, J. (2011), "Compliance Costs of Electronic Tax Filing for Personal Taxpayers in Malaysia", International Conference on Management (ICM 2011) proceeding.

Ifidon, S.E, and Ifidon, E.I (2007), New Direction in African Library Management, Ibadan: Spectrum Books Limited Industrial Service

Ifinedo, P. (2006), "E-government initiative in a developing country: Strategies and implementation in Nigeria", in proceedings of the 26th McMaster world congress on electronic business, Hamilton, Ontario, Canada.

Ifinedo, P. (2006), Acceptance and continuance intention of web-based learning technologies (WLT) use among university students in a Baltic country, Electronic Journal of Information Systems in Developing Countries, 23(6), 1–20

Igbaria, M., Zinatelli, N., Cragg, P., and Cavaye, A. L. M. (1997), "Personal Computing Acceptance Factors in Small Firms: A Structural Equation Model," MIS Quarterly (21:3):279-305

Igbaria, M.; Zinatelli, N.; Cragg, P.; and Cavaye, A.(1997), Personal computing acceptance factors on small firms: A structural equation model, MIS Quarterly, 21, 3:279–302

Ikwuje, S. P (2012), Impact of companies' income tax on the Nigerian economy, Department of Accounting, Faculty of Management Sciences, Benue state university, Makurdi

Ilias, A., Razak, M. Z. A. and Yasoa, M. R. (2009), "taxpayers'' attitude in using e-filing system: is there any significant difference among demographic factors?" Journal of Internet Banking and Commerce, 14(1), 1–13

Ilias, A., Suki, N. M., Yasoa, M. R., and Rahman, R. A. (2008), "A study of taxpayers" intention in using e-filing system: A case in Labuan F.T s, Computer and information science, vol. 1 No. 2, May 2008.

Im, B. (2001), "Using ICTs ICT to strengthen government transparency and relations with citizens in Korea", Korean Ministry of Planning and Budget.in developing countries" School of IT Business – KAIST ICC Campus – Daejeon South Korea.in IST Strategy, Organisation and Services, and the Role of Regional Actors, in Theory and Practice, Tata McGraw Hill, New Delhi, Delhi.

Im, B.Y. (2001), 'Strengthening Government–Citizen Connections: A Case Study of Korea', paper presented at the Special Session, Anti-Corruption Symposium.

Im, S., and Workman, J. P. (2004), "market orientation, creativity and new product performance in high-technologies firms", Journal of Marketing, 68, 114–132.

Imam, P. A. and Jacobs, D. F (2007), Effect of Corruption on Tax Revenues in the Middle East,IMF Institute and Fiscal Affairs Department, (IMF Working Paper No.07/270)

IMF (2008), Government Finance Statistics Yearbook 2007, Washington, D.C.: International Monetary Fund

Income Tax Ordinance No 3 of 1940integrated approach", Hillsdale, NJ: Erlbaum.

Internal Revenues Services (IRS) (2004), Update on Reducing the Federal Tax Gap and Improving Voluntary Compliance

International Monetary Fund (2003), "Nigeria: Selected Issues and Statistical Appendix," IMF Country Report No. 03/60

Irani, Z., Love, P.E.D. and Jones, S (2009), Learning Lessons From Evaluating E-government: Reflective Case Experiences That Support Transformational Government, The Journal of Strategic Information Systems 17(2):155-164.

IRS (2004), IRS e-Strategy for Growth.

Isa, K. (2014) "Tax complexities in the Malaysian corporate tax system: minimise to maximise", International Journal of Law and Management, Vol. 56:50 – 65

Isaac, N.N. and Lilian, L. (2010), "automation and customs tax administration TA: empirical evidence from Uganda", Department of Finance, Makerere University Business School, P. O. Box 1337 Kampala, Uganda.

Islam, M.S, Uddin, M. E and Rashid, M.U (2011), "Use of Knowledge System in the Rural Community in Improving Livelihood Status of the Farmers under RDRS", Journal of Agriculture and Rural Development, vol. 5, no. 1and 2: 167-172.

Iversen, V.,Fjeldstad,O., Frankellis, G. B., and James, R. (2006), private tax collection—remnant of the past.

Jackson, C.M., Chow, S. and Leitch, R.A (1997), "Toward an understanding of the behavioural intention to use an information system", Decision Sciences 28 (2), 1997: 357–389.

James, S. and Alley, C. (2004), "Tax Compliance, Self-Assessment and Tax AdministrationTA", Journal of Finance and Management in Public Services. Vol. 2 No 2, 10/9/04

James, S., and Nobes, C. (2009), The Economic of Taxation, 7th ed. London: Prentice Hall.

James, S and Nobes, C (2012), The Economics of Taxation: Principles, Policies and Practice, 11th ed. xii + 328, Fiscal Publications, Birmingham. (First ed. 1978, Chinese edition 1988, 4th ed. Prentice Hall 1992, Japanese edition, 1996, New Chinese Edition, 2004, 9th English edition, Fiscal publications 2009).

Jankowicz, A. D. (2000), Business Research Projects, 3rd Edition Centage Learning Inc.

Jantan, M., Ramayah, T. and Chin, W. W (2001), "Personal Computer Acceptance by Small and Medium Companies Evidence from Malaysia", Journal Management and Business 3(1): 1-14

Jarvenpaa, S. L. (1990), "Information Technology and Corporate Strategy: A view from the top", Graduate School of Business, University of Texas at Austin, Austin, Texas 78712-1175,

Jenkins, G. P. (1994), Modernization of Tax Administration TAs: Revenue Boards and Privatization as Instruments for Change. Bulletin for International Fiscal Documentation 48 (2) :75-81

Jensen, J. and Wöhlbier, F. (2012), "Improving tax governance in EU Member States: Criteria for successful policies", European Commission Directorate-General for Economic and Financial Affairs, European Commission Directorate-General for Economic and Financial Affairs

Johnson, R. B., Onwuegbuzie, A. J., and Turner, L. A. (2007), Toward a definition of mixed methods research, Journal of Mixed Methods Research, 1(2), 112-133

Joseph, D. K., Huppert, T. J., Franceschini, M.A., Boas, D.A. (2007), Diffuse optical tomography system to image brain activation with improved spatial resolution and validation with functional magnetic resonance imaging, Appl., Opt.,45,8142-8151

Kaaya, J (2009), Determining Types of Services and Targeted Users of Emerging E-Government Strategies: The Case of Tanzania, In. IJEGR 5(2):16-36.

Kaewsonth, M. and Harding, .R (1992), "Management in developing countries", Routledge, London.

Kamar, N. and Ong'ondo, M. (2007), "Impact of e-Government on Management and use of Government Information in Kenya", in the proceedings of World Library and Information Congress : 73rd IFLA General Conference and Council (Durban South Africa, 19 -23 Aug 2007).

Kangave, J. (2005), "Improving tax administration: a case study of the Uganda revenue authority", Journal of African Law, 49:145-176.

Kaplan, E (2012), "Does taxing the wealthy hurt growth?" the University of Maryland, USA, Thursday, October 25, 2012

Kapurubandara, M. and Lawson, R. (2006), "Barriers Adopting ICT and E-commerce with SMEs in Developing Countries: An Exploratory Study in Sri Lanka", CollECTeR '06, 9 December, 2006.

Karagöz, K. (2013), "Determinants of Tax Revenue: Does Sectorial Composition Matter?", Journal of Finance, Accounting and Management, 4(2), 50-63, July 2013.

Karahanna, E., Straub, D.W. and Chervany, N.L. (1999), "Information technology adoption across time: a cross-sectional comparison of pre-adoption and post-adoption beliefs", MIS Quarterly 23 (2):183–213

Karingi, S. N and Wanjala, B (2005) "Tax Reform Experience in Kenya", Working Paper 13, KIPPRA : 34-36, Nairobi, Kenya

Karunasena, K. (2012), “An Investigation of the Public Value of e-Government in Sri Lanka”, School of Business Information Technology and Logistics College of Business, RMIT University, Melbourne, Australia.

Karunasena, K. and Deng, H (2012), Critical factors for evaluating the public value of e-government in Sri Lanka, Government Information Quarterly, 29, 76-84

Kasipillai, J. (2001),”Understanding self-assessment: Taxpayer’s perspective” Northern

Kasipillail J. and Abdul –Jabbar, H. (2006),” Gender and ethnicity Differences in Tax Compliance”, Asian Academy of Management Journal, Vol. 11, No. 2, 73–88, July 2006.

Katundu, D. R. M. (1998), “The use and sustainability of Information Technology (IT) in Academic and research libraries in Tanzania”, PhD Thesis, University of Natal, South Africa

Keats, D. (2000), Interviewing: “A practical guide for students and professionals”, Buckingham: Open University Press.

Keightley, M. P. and Sherlock, M F (2012), “The Corporate Income Tax System: Overview and Options for Reform”, Congressional Research Service, New York 7-5700

Kennedy, J. A, and Sugden, K .F, (2007),” The Impact of Taxation on the Capital Budgeting Decision of Companies”.

Kerr, J (2012), “tax return simplification: risk key engagement, a return to risk?” ejournal of tax research (2012) vol. 10, no. 2: 465–482.

Khadijah, I. (2014) "Tax complexities in the Malaysian corporate tax system: minimise to maximise", International Journal of Law and Management, Vol. 56:50 - 65).

Kiabel, B.D, and Nwokah, N.G (2009), “curbing tax evasion and avoidance in personal Sincome tax administration: A study of the south-south states of Nigeria”, European J. Econs. Fin. Admin. Sci., 15: 16-61

Kieran, K., Glavanis-Grantham, K. and Gerard M (2013), “Transparency of companies and legal arrangements and anti-money laundering”, report on progress made on tax, trade and transparency during the year of the UK’s Presidency of the G8, UK Presidency of G8 2013

Kim, C., and Holzer, M.(2006), “Public Administrators’ Acceptance of the Practice of Digital Democracy: A Model Explaining the Utilization of Online Policy Forums in South Korea,” International Journal of Electronic Government Research (2:2):22–48.

Kim, S. (2008), Does political intention affect tax evasion? Journal of Policy Modelling, 30(3), 401-15

Kim, S., and Lee, H.(2006), "The impact of organizational context and information technology on employee knowledge-sharing capabilities," Public Administration Review (66:3):370–385.

King, W. R. and He, J. (2006), "A metal-analysis of the technology acceptance model", information management, 43(6): 740-755.

King, W.R and He, J (2006), "A meta-analysis of the technology acceptance model", Information and Management 43:740–755

Kinsey, K. A. and Grasmick, H. G. (2008), "Did the Tax Reform Act of 1986 Improve Compliance? Three Studies of Pre- and Post-TRA Compliance Attitudes", Law and Policy, Volume 15(4):293–325, July, 2008.

Kitillya, H. (2011), Tax Administration Reforms in Tanzania: Experience and Challenges.

Kitillya, H. (2012), Tax Administration Reforms in Tanzania: Experience and Challenges.

Klun, M. (2004), Compliance costs for personal income tax in a transition country: The case of Slovenia, Fiscal Studies, 25(1), 93. .

Klun, M. (2009), Pre-filled income tax returns: Reducing compliance costs for personal income taxpayers in Sloveni,. Financial Theory and Practice, 33(2), 219-237.

Klun, M. and Dečman, M. (2002), "e-public services: the case of e-taxation in Slovenia" Preliminary communication UDC 330.322:336.76](497.12)..

Kohonen, M.(2009) "tax justice country report series tax" justice network intl. Secretariat 38 Stanley avenue, Chesham Bucks HP5 2JG, United Kingdom.

Korpelainen, E. (2011), "Theories of ICT System Implementation and Adoption – A Critical Review", Working Paper 2011, Department of Industrial Engineering and Management, Aalto University School of Science, Helsinki

Korpelainen, E. and M. Kira (2010), "Employees' Choices in Learning How to Use Information and Communication Technology Systems at Work: Strategies and Approaches", International Journal of Training and Development (14)1: 32–53

Koson, S. (2006), "The impact of ICT on the growth of service industries" Paper to be presented at the DRUID Summer Conference 2006 on Knowledge, Innovation and competitiveness: dynamics of firms, networks, regions and institutions, Copenhagen, Denmark, June 18-20, 2006

Kothari, U (2002), "Landless Labour and Agrarian Change in South Gujarat", In Labour Relations and Agrarian Change in Gururat, ed Shah, G. Streefkirk, H. and Rutten, M. Delhi: Sage, 2002.

Krubu, D. E. and Osawaru, K. E. (2011), "The Impact of Information and Communication Technology (ICT) in Nigerian University Libraries", Library Philosophy and Practice 2011.

Kumar V, Mukerji B, Butt I and Persaud A (2007), "Factors for Successful e-Government Adoption: a Conceptual Framework" The Electronic Journal of e-Government Volume 5 Issue 1: 63 – 76.

Kamar, N. and Otenyo, S. C. (2009), "Utilizing the e-Government framework as principles for the development of digital libraries and archives", First International Conference on African Digital Libraries and Archives (ICADLA - 1).

Kumar V, Mukerji B, Butt I and Persaud A (2007), "Factors for Successful e-Government Adoption: a Conceptual Framework", The Electronic Journal of e-Government Volume 5 Issue 1: 63 - 76,

Kumar, A., Hansson, A., Huisken, J., and Corporaal, H. (2008), An FPGA design flow for reconfigurable network-based multi-processor systems on chip, ACM Transactions on Design Automation of Electronic Systems, Vol. 13, No. 3, Article 40.

Kumar, N., Mohan, K. and Holowczak, R. (2008), "Locking the door but leaving the computer vulnerable: Factors inhibiting home users' adoption of software firewalls", Decision Support Systems, Vol. 46, No 1: 254-264.

Kuznetsova, O. (2010), tax return filing online – case Finnish tax administration TA, Information Systems Science, Department of Business Technology, Helsingin Kauppakorkeakoulu; Helsinki School of Economics.

Kvale, S. (1996), Interviews, 1st ed, Sage Publications. Inc., London.

Lai, J. Y. and Chen, W. H. (2009), Measuring e-business dependability: The employee perspective. Journal of Systems and Software, 82(6), 1046-1055.

Lai, K. Q., Nguyen, T. T., Mock, J., McPhee, S. J., Doan, H. T., and Pham, T. H. (2004), Increasing Vietnamese-American physicians' knowledge of cervical cancer and Pap testing: Impact of continuing medical education programs, Ethnicity and Disease, 14(3, Suppl. 1), S122-127

Lai, M. L. (2008), "Technology readiness, internet self-efficacy and computing experience of professional accounting students", Campus-Wide Information Systems, Vol. 25 No. 1: 18-29.

Lai, M. L. and Choong, K. F. (2008), "Electronic tax filing system: taxpayers' perspectives", seventh Wuhan international conference on e-business: unlocking the full potential of global technology, 2008, volume 1: .338-343.

Lai, M. L., Sheikh , O. S. N. and Meera, A. K. (2005),"Tax practitioners and the electronic filing system: an empirical analysis", academy of accounting and financial studies journal, 9(1), 93-109.

Lai, M. L., Siti- Normala., S. O, and Kameel., A. M. (2004), "Towards an electronic filing system: A Malaysian survey.", eJournal of Tax Research, Vol. 2, No. 1: 100-112.

Lai, M.L., and Choong, K.F. (2009), Self-assessment tax system and compliance complexities: Tax practitioners' perspectives, Paper presented at the 2009 Oxford Business and Economics Conference, St. Hugh's College Oxford University Oxford, UK.

Lai, M.L., Obid, S. N. S., and Meera, A.K. (2005), Tax practitoners and the electronic filing system: An empirical analysis, Academy of Accounting and Financial Studies Journal, 9(1), 93 - 109.

Lai, M.L., Obid, S. N. S., and Meera, A-K. (2004), Towards an electronic filing system: A Malaysian survey eJournal of Tax Research, 2(1), 100-112

Lam, W. (2005), Barriers to e-government integration, The Journal of Enterprise Information Management, 18(5), 511−530..

Land, A. (2004), "Developing capacity for tax administration: The Rwanda Revenue Authority", ECDPM Discussion Paper No 57D, Maastricht: European center for development policy management.

Langham, J., Paulsen, N. and Hartel, C. E. J. (2012),"improving tax compliance strategies: can the theory of planned behaviour predict business compliance?", ejournal of tax research (2012) vol. 10, no. 2, : 364-402

Laury, S., &and Wallace, S. (2005)," Tax Confidentiality and Tax Compliance: An Experimental Analysis". Georgia State University, USA

Lazer, D. (2005), "Regulatory Capitalism as a Networked Order: The International System.

Lederman, L. (2002)," Understanding Corporate taxation", Corporations Taxation Law and legislation United States, Income Tax Law and Legislation United States (New York, N.Y.).

Lee, A (2005), Property Taxation under Conditions of Rapid Urban Growth: the Singapore Experience, J. Pro. Valuat. Invest. 11 (4): 96-132.

Lee, C.B. and Lei, U.L. (2007), Adoption of e-government services in Macao. Proceedings of the 1St International Conference on Theory and Practice of Electronic Governance, ACM International Conference Proceeding Series, 232, 217-220

Lee, H., Irani,Z., Osman, I.H., Balci, A., Ozkan,S., and Medeni., T.D. (2008), Research Note: Toward a Reference Process Model for Citizen Oriented Evaluation of E-Government Services, Transforming Government: People, Process and Policy, 2(4):297-310.

Lee, J, Kim, H.J and Ahn, M (2011), The willingness of e-Government service adoption by business users: The role of offline service quality and trust in technology, Government Information Quarterly Volume 28, Issue 2: 222–230

Lee, M. (2009), "Predicting and explaining the adoption of online trading: an empirical study in Taiwan", Decision support system 47(2009):133-142.

Lee, M. (2010), "Explaining and predicting users' continuance intention toward e-learning: An extension of the expectation–confirmation model", Computers and Education 54: 506–516

Lee, M.C. (2009), "Factors influencing the adoption of internet banking: An integration of TAM and TPB with perceived risk and perceived benefit", Electronic Commerce Research and Applications, Vol. 8, No. 3: 130-141

Lee, O. and Gong, S. J. (2004), "Overcoming the Confucian psychological barrier in government cyberspace", Cyber Psychology and Behaviours, Vol. 7 No. 1: 25-8.

Lee, S. M., Tan, X. and Timi, S. (2005), "Current practices of leading e-government countries", Commun. Assoc. Inform. Syst. 48(10):99-104.

Lee, S. M., Tan, X. and Trimi, S. (2005), "Current practices of leading e-government countries", Communications of the ACM, Vol. 48 No. 10: 99-104.

Lee, Y., K. A. Kozar and K. R. T. Larsen (2003), "The Technology Acceptance Model: Past, Present, and Future", Communications of the Association for Information Systems (12)50:752–780.

Leedy, P. and Ormrod, J. (2001), Practical research: Planning and design (7th ed.), Upper Saddle River, NJ: Merrill Prentice Hall. Thousand Oaks: SAGE Publications

Legris, P., J. Ingham and P. Collerette (2003), "Why Do People Use Information Technology?, A Critical Review of the Technology Acceptance Model", Information and Management 40: 191–204.

Leitman, R., Okaro, N., Porter, C.J.K., and Werner, G. (1996), Tax Evasion, American Criminal Law Review, Vol. 33.

Levin, B. (1989), 'Towards a lexical organization of English verbs', Manuscript, Northwest-ern University

Lewis, B and Smith R. (2002), The development of an electronic education portfolio: An outline for medical education professional, Teaching and Learning in Medicine, 19(2),139-147

Lewis, G (2009), "The impact on ICT on customs", World customs journal, Vol. 3(1): 3-11

Liew, R (2004), Turning The Tables On Bogus Accountants & Tax Consultants, Accountants Today, 24 -27.

Lin, C., Huang, Y. and Burn, J. (2007), Realising B2B e-commerce benefits: the link with IT maturity, evaluation practices, and B2BEC adoption readiness European Journal of Information Systems 16, 806–819

Lio, M., Liu, M. and Ou, Y. (2010), "Can the Internetinternet reduce corruption. A cross-country study based on dynamic panel data models", Department of Political Economy, National Sun Yat-sen University, Taiwan, 2010

Liu, C., and Arnett, K. P. (2000), "Exploring the factors associated with Website success in the context of electronic commerce", Information and Management, 38(1), 23−33

Liu, D. S. and Chen, W. (2009). An Empirical Research on the Determinants of User M-Commerce Acceptance. In R. Lee and N. Ishii (Eds.), Software Engineering, Artificial Intelligence, Networking and Parallel/Distributed Computing, 209, 93-104. London, Sage.

Lu, His-Peng., Liu, Su-Houn., and Liau, Hsiu-Li (2005), "Factors Influencing The Adoption Of E-Learning Websites: An Empirical", IEEE Volume VI, No. 1, 2005 190 Issues in Information Systems, viewed 20 October 2010

Lu, J, Yu, C. S and Liu, C (2009), 'Mobile Data Service Demographics in Urban China', Journal of Computer Information Systems, vol. Winter: 117-126

Lu, J., Yu, C.S., Liu, C. and Yao, J.E. (2003), "Technology acceptance model for wireless Internet", Internet Research, Vol. 13 No. 3, pp. 206-22

Luarn, P. and Lin, H. H. (2005), "Toward an understanding of the behavioural intention to use mobile banking", Comput Hum Behav 21(6): 873–891.

Lucas, H.C and Spitler, V.K (1999), "Technology use and performance: a field study of broker workstations", Decisions Sciences 30 (2):291–311.

Lutz, S. (2011), The Theory Of Planned Behaviour and The Impact of past behaviour, International Business and Economics Research Journal, Volume 10, Number 1

Lymer, A. and Oats, L (2009), Taxation: Policy and Practice, 16th ed. Birmingham. Fiscal Publications.Maastricht (Netherlands), European Institute of Public Administration.

MacDougall, G. D. A. (1960), "The benefits and costs of investment from abroad: a theoretical approach," Economic record, 36: 13-35, Malaysian survey, eJournal of tax research, 5.

Madden, T.J., Ellen, P.S. and Ajzen, I. (1992), "A comparison of the theory of planned behaviour and the theory of reasoned action", Personality and Social Psychology Bulletin, Vol. 18 (1): 3-9

Mahadeo, J. D. (2009), "Towards an understanding of the factors influencing the acceptance and diffusion of e-government services", Electronic Journal of e-Government Vol. 7 Issue 4:391 – 402.

Mahadeo, J. D. (2009), "Towards an Understanding of the Factors Influencing the Acceptance and Diffusion of e- Government Services." Electronic Journal of e-Government Volume 7 Issue 4 2009, (391 - 402),

Mahan, A.K. (2007), "ICT indicators for advocacy", global information society watch 2007 report.

Manaf, NA (2004), "land tax administration and compliance attitude in Malaysia", unpublished doctoral thesis, University of Nottingham, United Kingdom.

Manly, T. S., Thomas, D. W. and Ritsema, C. M. (2005), "Attracting non-filers through amnesty programs: internal versus external motivation", Journal of the American Taxation Association, Vol. 27: 75-95.

Mann, A (2004), 'Are semi-autonomous revenue authorities the right answer to tax administration problems in developing countries?, A practical guide', Washington, DC: USAID

Mann, A. (2004), "Are semi-autonomous revenue authorities the right answer to tax administrationTA problems in developing countries? A practical guide''. Washington, DC: USAID.

Mansor, M., Tayib, M., and Yusof, R.N. (2005). Tax administrationTA system: a study on the efficiency of Malaysian indirect taxes. International Journal of Accounting, Auditing and Performance Evaluation, 2(3), 321-43.

Mark, M. M. and Shortland, R. L. (1987), "Alternative models for the use of multiple methods" in program evaluation: New directions for program evaluation, 35:95-100

Marshall, T. C., Slate, J., Kruuk, L. E. B. and Pemberton, J. M. (1998), Statistical Confidence for likelihood-based Paternity influence in natural populations, Institute of Cell, Animal and Population Biology, University of Edinburgh, Edinburgh, EH9 3JT, UK.

Martin, L. O, Obongo, B. M., Magutu , P. O. and Onsongo, C. O. (2010), "The effectiveness of electronic tax registers in processing of value added tax returns perspectives from registered vat taxpayers in Kisii town", Kenya African journal of business and management (AJBUMA).

Martini, D.Mietzsch, E., Giannerini, G., Papaekonomou,V. and Kunisch.M.,(2010)," European tracking and tracing backbone solution requirements analysis". Deliverable D2.1, Transparent Food Project,October 2010a.

Martini, L. O., Obongo, B. M., Magutu , P. O. and Onsongo, C. O. (2010), "The effectiveness of electronic tax registers in processing of value added tax returns perspectives from registered VAT taxpayers in Kisii town", Kenya African Journal of Business and Management.

Maruf, J. J. (2004),"Intention to purchase via the internet: a comparison of two theoretical models", Account. Manage. J., 10(1): 79–95.

Maruf, J. J., Mohamad, O. and Ramayah, T. (2003), "Intention to Purchase via the Internet: A Comparison of Two Theoretical Models", the Proceedings of the 5th Asian Academy of Management Conference, "Challenges of Globalized Business: The Asian Perspective", Kuantan, Pahang, Malaysia

Maruf, J.J. (2004),"Intention to purchase via the internet: a comparison of two theoretical models", Account. Manage. J., 10(1): 79–95.

Mathieson, K (1991), "Predicting user intentions: comparing the technology acceptance model with the theory of planned behaviour", Information Systems Research, Vol. 2(3):173-191

Mathieson, K. (1991), "Predicting User Intentions: Comparing the Technology Acceptance Model with the Theory of Planned Behaviour", Department of Decision and Information Sciences, Oakland University, Rochester, Michigan.

Mathieson, K., Peacock, E., and Chin, W., (2001), "Extending the Technology Acceptance Model: The Influence of Perceived User Resources," Database for Advances in Information Systems, Vol. 32, Issue 3: 86 – 112

Maumbe, B. M. (2008), "taking a Back seat? Integrating trust in e-government service delivery in south Africa", e-Innovation Academy, Cape Peninsula University of Technology, Cape Town, South Africa; managing worldwide operations and communications with information technology.

Maumbe, B.M., Taylor, W.J., Erwin, G., and Wesso, H. (2008), "e-value creation for government web portal in South Africa," in "encyclopaedia of portal technologies and applications, edited by Arthur Tunall, Victoria University, Melborne, Australia.

McCarty, R. and Bruce, D. (2010), "Corporate Income Tax Systems and State Economic Activity", Department of Accounting, University of Tennessee, Stokely Management Center, Knoxville.

McConnell, V. D., Margaret W., and Winston H.. (1995), "evaluation of the costs and emissions reductions from compliance with mobile source emission control requirements: retrospective analysis". Rff discussion paper 95–36. Washington, dc: resources for the future.

McGrath, K. and Maiye, A. (2011), The Role of Institutions in ICT Innovation: Learning from Interventions in a Nigerian E-Government Initiative. Information Technology for Development, 16(4): 260-278

McKee, A. (2008), Allocating the Burden of Taxation Justly, Int. J. Soc. Econ., 17 (3): 178-213.

McKee, M. (2008), Institutional uncertainty and taxpayer compliance. American Economic Review, 82(4), 1018-26.

Mckerchar, M. and Evans, C (2009) "Sustaining Growth in Developing Economies through Improved Taxpayers Compliance: Challenges for Policy Makers and Revenue Authorities", Social Science Research Journal, Retrived from http/papers.ssrn.com Nov, 2009.

McKerchar, M.(2007), Tax complexity and its impact on tax compliance and tax administration in Australia. Paper presented at IRS Research Conference.

Merriam, S. B. (1998), "Introduction to qualitative research", Jossey-Bass Publishers 350, Sansome St, San Francisco CA94104.

Merriam, S. B. (1998), Qualitative research and case study applications in education, San Francisco: Jossey-Bass.

Mgimwa, W. (2013), "Tanzania: Technology Increases Tax Revenue Collection", making an official statement in Parliament, the Minister for Finance and Economic Affairs, Tanzania Daily News, Dar es Salaam, Tanzania.

Michael, M (1983), "some questions for the information society", In: T Forester (ed.), the information technology revolution (Basil Blackwell, Oxford, 1983).

Micah, L. C, Ebere, C. and Umobong, A. A. (2012), "Tax System in Nigeria – Challenges and the Way Forward", Research Journal of Finance and Accounting, Vol 3, No 5.

Micheni, E. M., Lule, I., and Muketha, G. M. (2013), "Transaction Costs and Facilitating Conditions as Indicators of the Adoption of Mobile Money Services in Kenya", International Journal of Advanced Trends in Computer Science and Engineering (IJATCSE), Vol.2 , No.5, Pages : 09-15 (2013), Special Issue of ICACET 2013 - Held during October 14-15, 2013, Kuala Lumpur, Malaysia.

Mick, D.G. and Fournier, S. (1998), "Paradoxes of technology: consumer cognizance, emotions and coping strategies", Journal of Consumer Research,: 123-43.

Miles, M.B., and Huberman, A.M. (1994), Qualitative Data Analysis: An expanded source-book (2nd edn.), Sage:London and Thousand Oaks, California

Ming, L.L, Normala, S.O and Meera, A.K (2005), Towards electronic tax filing: Technology readiness and responses of Malaysian tax practitioners. Tax National, First Quarter: 16-23

Mofleh, S., Wanous, M. and Strachan, P. (2008a), "developing countries and ICT initiatives: lessons learnt from Jordan's experience", the electronic journal on information systems in developing countries, vol. 34, no.5,:1-17.

Monga, A. (2008), "E-government in India: Opportunities and challenges", Journal of Administration and Governance, Vol. 3. No. 2

Moody, D. L., Jacob, M. E. and Amrit, C. (2010), *"In Search of Paradigms: Identifying the* Theoretical Foundations of the IS Field*",* 18th European Conference on Information Systems, ECIS 2010, 6-9 June 2010, Pretoria, South Africa.

Mooij, R. A. and Nicodeme, G. (2007), "Corporate tax policy and incorporation in the EU", Int. Tax Public Finance (2008) 15:478-498.

Moon, J.W. and Kim, Y.G. (2001), "Extending the TAM for a World-Wide-Web context", Information and Management, Vol. 38: 217-30

Moore W (1999), Working Smarter with Automation, Construction Equipment, Int. J. Soc. Econ., 17 (3): 178-213

Moore, G. A. (1999),"Crossing the Chasm", harper business, New York.

Moore, G. and Benbasat, I. (1991), Development of an instrument to measure the perceptions of adopting an information technology innovation, Information Systems Research, 2, 192-222.

Moore, G. C. (1999), "development of an instrument to measure the perceptions of adopting an information technology innovation", information systems research Vol. 2 No 3 (1991) : 173-191.

Moore, M. and Schneider, A. (2004), Taxation, Governance and Poverty: Where Do the Middle Revenue Countries Fit? IDS Working Paper 230, Institute of Development Studies, University of Sussex.

Mouton, J. (2001), How to succeed in your Master's and Doctoral studies, A South African guide and resource book, Pretoria: Van Schaik Publishers.

Mugisha, S. (2001), "Using ICT in development: the case of Uganda international conference paper on Information Technology". Communications and Developments ITCD (36), Kathmandu, Nepal

Mugume, C (2006), managing taxation in Uganda, Kampala: MPK Graphics.

Muhalia, A. M. (2009), "Phone Technology Adoption in Rural Areas, the Affordability Factor in Adoption: A case Study of Kakamega East District", Published on School of Computing and Informatics, Kenya.

Muir, A. and Oppenheim, C. (2002), "National Information Policy Developments Worldwide I: electronic government", Journal of Information Science, 28(3), 173

Muller-Seitz, G., Dautzenberg, K., Creusen, U. and Stromereder, C. (2009), "Customer acceptance of RFID technology: Evidence from the German electronic retail sector", Journal of Retailing and Consumer Services, Vol. 16: 31-39

Mundy, D and Musa, B (2009), "towards a framework for e-government development in Nigeria" electronic journal of e-government volume 8 issue 2 2010, (pp148-161),

Munsaka J. S. (2010), "ICTs and development in Zambia: challenges and opportunities", Panos London, 9 White Lion Street, London, N1 9PD, United Kingdom.

Muriithi, M. K. and Moyi, E. D. (2003), "Tax Reforms and Revenue Mobilization in Kenya", AERC Research Paper 131, African Economic Research Consortium, Nairobi

Muriithi, M. K. and Moyi, E. D. (2003): "Tax Reforms and Revenue Mobilization in Kenya." AERC Research Paper 131, African Economic Research Consortium, Nairobi.

Musgrave, P. B. (1987), "Inter jurisdictional coordination of taxes on capital income," in S. Cnossen, ed., Tax Coordination in the European Community (Amsterdam: Kluwer, 1987).

Musgrave, R. (1987): "Tax Reform in Developing Countries", In The Theory of Taxation for Developing Countries, Newbery D, Stern N (eds). Oxford University Press: New York. pp. 242-263.

Musgrave, R.A. and P.B. Musgrave, (2006), Public Finance in Theory and Practice, Tata McGraw Hill, New Musgrave, R.A. and P.B. Musgrave, 2006, Public Finance in Theory and Practice. Tata McGraw Hill, New

Muthama, J (2013), the effects of revenue system modernization on revenue collection at Kenya revenue, a research project submitted in partial fulfilment of the requirements for the award of the degree of Master of Science in finance, university of Nairobi

Muwonge, H. L. (2011), "The influence of electronic tax filing system on tax compliance and tax collection", Makerere University, Uganda.

Nasser, G. and John, (2005), "e-government: technology for good governance", development and democracy in the MENA countries.

Nawaz, F. (2010), exploring the relationships between corruption and tax revenue

Ndonye, P. (2012), Factors affecting revenue collection in the ministry of State for Immigration and Registration of Persons, Unpublished MBA project, Moi University.

Ndou, V.D. (2004), E-Government for Developing Countries: Opportunities and Challenges, The Electronic Journal on Information Systems in Developing Countries, Vol.18: 1-24

Ndubisi, N. O., Jantan, M. and Richardson, S. (2005), Is the technology acceptance model valid for entrepreneurs? Model testing and examining usage determinants, Asian Academy of Management Journal, 6(2):31-54.

Nero, M. and Amrizah, K. (2003), Are Salaried Individuals in Sarawak ready for Self-Assessment System, SAS, in 2004?, paper presented at SEMACC 2003, December 2003, Putra Palace, Perlis.

Nero, M. and Amrizah, K. (2005). Tax Literacy among Employees in Sarawak, Jurnal Akademik December 2005 Issue . 22-42..

Nero, M., Amrizah, K., Tamoi, J., Muliati, B.A. I., Aizimah, B. A. S. and Sarawak, M. (2010)," tax literacy among employees: Sabah and Sarawak''s perspective", international journal of economics and finance, vol.2 No 1, February,2010.

Ngama, Y. (2013), "The high incidence of tax evasion in the country", Workshop of the African Tax Forum organised by the Federal Inland Revenue Services (FIRS), Nigerian Tribune Newspapers Ltd, 17/05/2013..

Ngerebo, T. A. and Masa, A. (2012), "Appraisal of tax system in Nigeria (a case study of value added tax)", Research Journal in Organizational Psychology and Educational Studies 1(6) 338-344.

Nguyen, T. U. H. (2009), "Information technology adoption in SMEs: an integrated framework", International Journal of Entrepreneurial Behaviour and Research, 15(2), 162-186.

Nicodème, G. (2006). Computing Effective Corporate Tax Rates: Comparisons and

Nicodème, G. (2009), "Corporate Income Tax and Economic Distortions", European Commission, Centre Emile Bernheim (Solvay Business School), ECARES (ULB) and CESifo.

Niemirowski, P. and Wearing, A. J. (2003), "Taxation Agents and Taxpayer Compliance", Journal of Austrian Taxation, 2003.

Nightingale, K. (2001), Taxation: Theory and Practice London, Prentice Hall.

Nisar, T. (2006), e-Governance in revenue collection and administration, In, Morgan, K., Brebbia, C.A. and Spector, J.M. (eds.), The Internet Society II: Advances in Education, Commerce and Governance, Internet and Society 2006 Southampton, UK, Wessex Institute of Technology, 265-274.

Nnanseh, M and Akpan, S.S (2013), "Dr. President – Goodluck Ebele Asikiwe Johnathan in his speech during the 1st International Tax Conference held in Abuja on 27th October, 2008", Internally Generated Revenue (IGR) and Infrastructural Development in Akwa Ibom State, European Journal of Business and Management

Norbhu, T. D. (2014), "Making ICTs Affordable in Rural Areas", Lead ICT Policy Specialist, Regional Coordinator Asia, the World Bank.

Norton, R. (2008),"Corporate tax", The Concise Encyclopaedia of Economics.

Nour, M. A., AbdelRahman, A. A.,and Fadlalla, A. (2008), A context-based integrative framework for E-Government initiatives. Government Information Quarterly, 25(3), 448

Nzotta, S.M., (2007), "Tax evasion problems in Nigeria": A Critique Nigerian Accounting Journal 40(2): 40-43.

Obalola, M.A., Omoteso, K. and Adelopo, I.A. (2009), "Corporate Governance and Corporate Social Responsibility in Africa" in G. Aras and D. Crowther (Eds), Global Perspectives on Corporate Governance and Corporate Social Responsibility, Gower.

Odusola, A (2006), "tax policy reforms in Nigeria", Research paperNo2006/03. United Nations University.

OECD (2002), "Business Benefits of Trade Facilitation", TD/TD/WP(2001)21/FINAL. ―

OECD (2003), "The E-government Imperative: Main Findings".

OECD (2003a), "Quantitative Assessment of the Benefits of Trade Facilitation", TD/TD/WP (2003)31/FINAL.

OECD (2003b), "Trade Facilitation Reforms in the Service of Development", TD/TD/WP (2003)11/FINAL.

OECD (2004), "the economic impact of ICT; Measurement, Evidence and Implications", Organisation for Economic Cooperation and Development Publications

OECD (2004a), "The Costs of Introducing and Implementing Trade Facilitation Measures: Interim Report", TD/TC/WP (2004)36/FINAL.

OECD (2004b), “Structural Adjustment in Textiles and Clothing in the Post-ATC Trading Environment”, TD/TC/WP (2004)23/FINAL.

OECD (2005a), “Role of Automation in Trade Facilitation”, TD/TD/WP(2003)21/FINAL.

OECD (2005b), “Trade Facilitation Reforms in the Service of Development: Country Case Studies”, TD/TD/WP(2004)4/FINAL.

OECD (2005c), “South-South Trade: a Scoping Paper”, TD/TD/WP(2005)6.

OECD (2005d), “Impact of Changes in Tariffs on Developing Countries’ Government Revenue”, TD/TC/WP(2004)29/FINAL

OECD (2008), “Fundamental Reform of Corporate Income Tax”, OECD Tax Policy Studies, No. 16.

OECD (2008), Governance, Taxation and Accountability: Issues and Practices, Paris:

OECD (2010), Revenue Statistics tax to GDP ratio changes between 2007 and provisional 2013 data of economics, finance and administrative sciences, 20, 116-126.

Ogbonna, G.N and Ebimobowe, A (2012), “impact of petroleum revenue and economy of Nigeria”, the social sciences 7(3):405-411, 2012. Medwell journals, 2012.

Oh S., Ahn J. and Kim B. (2003), “Adoption of broadband Internet in Korea: The role of experience in building attitudes”, J Inform Technol. 18(4): 267–280.

Ojha, A., Sahu, G.P., and Gupta M.P. (2009),” Antecedents of paperless income tax filing by young professionals in India: an exploratory study, Indian Transforming Government: People”, Process and Policy Vol. 3 No. 1, 2009:. 65-90

Okafor, G. T. (2012), “Revenue generation in Nigeria through e-taxation, a study of selected states”, European Journal of Economics and Administrative Sciences, Issue 49 (2012).

Okike, E. N. M. (2007), “Corporate Governance in Nigeria: the status quo”, Journal compilation 2007, Blackwell Publishing Ltd, 9600 Garsington Road, Oxford, UK.

Okonjo-Iweala, N (2014), “Tax Revenue to Gross Domestic Product (GDP), Falling Oil Prices: Expect impact from this month”, Vanguard Nigerianewspapers.com, November, 2014

Okoye, P. V. C. and Ezejiofor, R. (2014), “The impact of e-taxation on revenue generation in Enugu, Nigeria”, International Journal of Advanced Research (2014), Volume 2, Issue 2, 449-458.

Ola, C. S. (2001). Income Tax Law and Practice in Nigeria. Ibadan: Heinemann Educational Books (Nigeria) Limited.

Ola, C.S. (1974), Income Tax Law for Corporate and Unincorporated Bodies in Nigeria, Heinemann Education Books, Ibadan.

Olabisi, J. (2010), "An assessment of tax evasion and tax avoidance in Lagos State", Journal of Research in National Development, Vol.8, No.1

Oloyede, I. O. (2009), "Repositioning the Nigeria's Tax System: Suggested Policy Measures", A paper presented at the University on Ilorin, Ilorin, 2009.

Oluwakayode, E.F. and Arogundade, K. K. (2011), "problems and prospects of using consultants in tax administrationTA in Nigeria: a retrospective focus on Lagos State, Nigeria", department of accounting, faculty of management sciences, University of Ado Ekiti, Nigeria, Accepted 12 February, 2011

Omoigui-Okauru, I (2011), "FIRS rakes in N2.8trn tax revenue", "Repositioning Edo State Using Technology, at the 2nd Edo State Technology Day 8th July, 2011, Vanguard Nigerianewspapers.com, July 2011

Omoigui-Okauru, I. (2005), "History of African tax compliance – Nigeria as a case study", Leadership Newspapers Group, Abuja.

Omoigui-Okauru, I. (2008), The Nigerian experience on organisational issues and training, A paper presented at a meeting on Revenue's Role in the Quest for Inclusive Development: "What Works and What Can Work Better?" at the New York University, US, May 22-23

Omoigui-Okauru, I. (2009), "Fiscal implications of the 2009 federal budget", Paper delivered at a workshop organised by the Chartered Institute of Taxation of Nigeria (CITN) on the 2009 Federal budget, (Reported in the Guardian Newspaper, Thursday 22, January 2009):1 and 2.

Omoigui-Okauru, I. (2010), "We laid a strong foundation for Nigerian tax system", Vanguard Newspaper, Nigeria.

Omoteso, K. (2006), "The Impact of Information and Communications Technology on Auditing", Published PhD Thesis, De Montfort University, UK.

Oppenheim, A. N. (1992), Questionnaire Design, Interviewing and Attitude Measurement, Research Laboratory of electronics TR No 570

Osei, P (2000), 'Political Liberalisation and the Implementation of Value Added Tax in Ghana', Journal of Modern African Studies 38.2: 255–78

Osei, R. D. and Quartey, P (2005), Tax reforms in Ghana, Research Paper 66, Helsinki: World Institute for Development Economics Research (WIDER), United Nations University

Osoro, N.E (1993), Revenue Productivity Implications of Tax Reform in Tanzania, Research Paper No. 20, Nairobi; African Economic Research Consortium.

Otieno, O. C, Oginda, M, Obura, J. M, Aila, F. O, Ojera , P.B and Siringi, M. E (2013), Effect of Information Systems on Revenue Collection by Local Authorities in Homa Bay County, Kenya ,Universal Journal of Accounting and Finance 1(1): 29-33,

Ovia, J. (2008),"IT Deployment as Corporate Strategy in Repositioning Banks in Nigeria", Zenith Economic Quarterly, 1(7) (July).

Ozgen, F. B. and Turan, A. H. (2007), Usage and Adoption of Online Tax Filing and Payment System in Tax Management: An Empirical Assessment with Technology Acceptance (TAM) Model in Turkey, Presented at the 9th International Scientific Conference, Management Horizons: Visions and Challenges, Kaunas

Palil, M. R. (2010), Tax knowledge and tax compliance determinants in self-assessment system in Malaysia, Department of Accounting and Finance, Birmingham Business School, The University of Birmingham, 2010

Pant, H. M. and Fisher, B. S.: (2004), PPP versus MER: Comparison of Real Income Across Nations, Conference Paper 04.3, ABARE, Canberra.

Parasuraman, A. (2000), "Technology Readiness Index (TRI): A Multiple Item Scale to Measure Readiness to Embrace New Technologies," Journal of Services Research, 2 (4), 307-20

Parasuraman, A., Zeithaml, V. A. and Malhotra, A. (2005), E-S-QUAL: A Multiple-Item Scale for Assessing Electronic Service Quality, Journal of Service Research, 7(3): 213-233

Park, D. (2006), "Foreign Direct Investment and Corporate Taxation: Overview of the Singaporean Experience Economics Division", School of Humanities and Social Sciences, Nanyang Technological University, Singapore 639798

Park, S. Y. (2009), An Analysis of the Technology Acceptance Model in Understanding University Students' Behavioural Intention to Use e-Learning, Educational Technology and Society, 12 (3), 150–162.

Parker, D., Manstead, A. S. R., Stradling, S. G., and Reason, J. T. (1992b), Determinants of intention to commit driving violations, Accident Analysis and Prevention, 24, 117–131.

Parker, D., Manstead, A., and Stradling, S. G. (1995), Extending the theory of planned behaviour: the role of personal norm, British Journal of Social Psychology, 34, 127–137. Parker, D., Manstead, A. S. R., Stradling, S. G., Reason, J. T., and Baxter, J. S. (1992a), Intention to commit driving violations: an application of the theory of planned behaviour, Journal of Applied Psychology, 77(1), 94–101.

Parsons, G. (2006). Expenditure on property: management aspects of taxation, Pro. Manage, 7 (2): 712-734.

Parsons, G. (2007), Taxation and the House. Property Manage, 8(4): 243-286.

Partch K (1997), The Coming Impact of Information Technology, Supermarket Business, , Int. J. Soc. Econ., 17 (3): 178-213

Parten, M. (1950), "Surveys, Polls, and Samples: Practical Procedures", New York: Harper and Brothers.

Patton, M. O. (2002), Qualitative Evaluation and Research Methods, 2nd edition, Sage Publications, Newbury Park, 532, 2002.

Paul, L. and John, I (2003), Why do people use information technology? , A critical review of the technology acceptance model information and management: 191-204

Pavot, V., Diener, E., Colvin,C.R and Sandvik, K. E (1991), Further validation of the satisfaction with life scale: Evidence for the cross-method convergence of well-being measures, Journal of personality assessment 57:149-161

Pedhazur, E. J., and Schmelkin, L. P. (1991), "measurement, design, and analysis: an online: An exploratory study on tax in Malaysia, 12 International Journal of Electronic Government Research,.

Peled, A. (2000), "Creating Winning Information Technology Project Teams in Public Sector", Team Performance Management, Vol. 6: 200 – 235.

Peterson RA, Balasubramanian S, Bronnenberg BJ (1997), Exploring the Implication of the Internet for Consumer Marketing, J. Acad. Mark. Sci. 25 (4): 329-346.

Peterson, R. A., Balasubramanian, S.and Bronnenberg, B. J. (1997), Exploring the Implications of the Internet for Consumer Marketing, Journal of the Academy of Marketing Science, 25(4), 329–346.

Phang, C. W., Li, Y., Sutanto, J., and Kankanhalli, A. (2006), Senior citizens'' adoption of e-governmente-Government: In quest of the antecedents of perceived usefulness, Proceedings of the 38th Hawaii International Conference on System Sciences (HICSS''05) philosophies, theories, methods and practice. Government Information

Pinho, J. C., and Macedo, I. M. (2008), "The relationship between market orientation and financial dependency: The specific case of Portuguese non-profit organisations" In Farhangmehr (Ed.), Marketing in a changing world, proceedings of the European Marketing Academy, Braga, Portugal.

Pinho, J., Macedo, I. and Monteiro, A. (2007), "The impact of online SERVQUAL dimensions on certified accountant satisfaction: The case of taxation services," EuroMed Journal of Business, Vol. 2, No. 2, 154-72, 2007.

Piotrowska, J. and Vanborren, W. (2008), "The corporate income tax rate-revenue paradox: Evidence in the EU", European Commission- Taxation and customs union, Office for Official Publications of the European Communities, 2008, Luxembourg.

Pope, J. (1993), "The Compliance costs of Taxation in Australia and Tax simplification: The issues", Australian Journal of Management, 18, 1, June 1993, ã The University of New South Wales.

Pope, J. and Abdul-Jabbar, H. (2008), "Tax Compliance costs of small and medium enterprises in Malaysia": Policy implications. School of Economics and Finance, Curtin University.

Potanlar, S. K., Samimi, A. J. and Roshan, A. R. (2010), "Corruption and Tax Revenues: New Evidence from Some Developing Countries", Australian Journal of Basic and Applied Sciences, 4(9): 4218-4222, 2010.

Powel, R. R. (1997), Basic Research Methods for Librarians, 3rd ed, Greenwood Publishing Group, Oct. 1, 1997.

Price water house Coopers (PWC, 2010), Pharma 2020: Taxing times ahead Which path will you take?, PwC, 2009

Prichard, W. (2010), "Taxation and State Building: Towards a Governance Focused Tax Reform Agenda", IDS Working Paper 341 First published by the Institute of Development Studies, May 2010, Institute of Development Studies 2010: 978 1 85864 926 9.

Proctor, S. (1998), Linking philosophy and method in the research process, the case for realism Nurse Researcher, 5, (4):73-90.

Pudjianto, B. and Hangjung, Z. (2009), "factors Affecting e-governmente-Government assimilation Quarterly, 24, 243-265.

Purohit, D. (2001), "effect of manufacturer reputation, retailer reputation, and product warranty on consumer judgments of product quality: a cue diagnosticity framework," journal of consumer psychology, 10 (3), 123-34.

PWC (2014), Economic and fiscal implications of Nigeria's rebased GDP

Radian, A. (1980), Resource Mobilization in Poor Countries: Implementing Tax Reform. New Brunswick, NJ: Transaction Books, 1980.

Rakotomalala, F.Z. (2011), "For an effective taxation of electronic commerce in Madagascar" WTO Electronic commerce and the role of WTO : Special Studies. Geneva: World Trade Organisation

Ramayah T, Yusoff Y.M, Jamaludin N, Ibrahim A (2009), Applying the theory of planned behavior (TPB) to predict internet tax filing intentions, Int. J. Manage. 26(2): 272-284.

Ramayah, T. (2006a and b), Interface characteristics, perceived ease of use and intention to use an online library in Malaysia, Information Development, 22(2), 123-133

Rana, N. P., Williams, M. D. and. Dwivedi, Y. K. (2012), "Evaluating Suitability of Alternative Theoretical Paradigm for Examining Citizen Adoption of E-Government", Brunel University, London, United Kingdom

Reddy, D. N., Mansingh, P., Sharma, N. and Pinto, A. N. (2012), "Tax Evasion, Tax Avoidance and Tax Revenue Loss in India: A Report towards Creation of Public Awareness and Action", Centre for Education and Communication, India.

Reid, A. D. (2006), Researching Education and the Environment, retrospect and prospect Environmental Education Research, 12 (3-4) : 571-588.

Remenyi, D., Williams, B., Money, A. and Swartz, E. (1998), Doing Research in Business and Management, An introduction to Process and Method, London, Sage.

Report: own source revenue policy and administration". pre-final draft (7 May), World Results, Economic Paper, 153, European Commission

Richardson, G. (2008), The relationship between culture and tax evasion across countries: Additional evidence and extensions, Journal of International Accounting, Auditing and Taxation, 17(2), 67-78.

Richardson, M., & Sawyer, A. J. (2001), Taxonomy of the Tax Compliance Literature: Further Findings, Problems and Prospects. Australian tax forum, 16, 137-320

Rocco, T. S., Bliss, L. A., Gallagher, S. and Perez-prado, A. (2003), "Taking the Next Step: Mixed Methods Research in Organisational Systems, Information Technology", Learning and Performance Journal, 21(1):19-29.

Roger, S. (2006), Data Collection and Analysis, Sage Publications Ltd, 2rd edition, 2006.

Rogers, E. M. (1995), "Diffusion of innovations", New York: The Free Press.

Roldán, J. L and Leal, A (2003), A Validation Test of an Adaptation of the DeLone and McLean's Model in the Spanish EIS Field, University of Seville, Spain

Roller, L.H. and Waverman, L (2001), "Telecommunications Infrastructure and Economic Development: A Simultaneous Approach," American Economic Review 91 No. 4: 909-23.

Rose, N. (1992), 'Political Power beyond the State: Problematics of Government' The British Journal of Sociology, 43, 2: 173-205.

Ross, S. (1992), "The determination of financial structure: The incentive-signalling approach", Bell Journal of Economics 8. 1310.

Rotimi, O., Udu, U. S. A. and Abdul-Azeez, A. A. (2013), "Revenue generation and engagement of tax consultants in Lagos state, Nigeria: continuous tax evasion and irregularities", European Journal of Business and Social Sciences, Vol. 1, No. 10:25-35, January 2013.

Rouibah, K (2012), Trust factors influencing intention to adopt online payment in Kuwait, Association for Information Systems, AIS Electronic Library

Sahu, G P and Gupta, M P (2007), "user's acceptance of e-government: a case study of Indian Central Excise, International journal of electronic government research,3(3):1-21..

Salant, P. and Dillman, D. (1994), "How to conduct your own survey", New York: John Wiley and Sons, Inc.

Saliza A. A. and Kamil M. I. (2012), The Determinants of Tax E-filing among Tax Preparers in Malaysia, World Journal of Social Sciences Vol. 2(3): 182 – 188

Sammons, P., Day, C., Kington, A., Gu, Q., Stobart, G.and Smees, R. (2007), "exploring variations in teachers' work, lives and their effects on pupils: key findings and implications from a longitudinal mixed-methods study", British educational research journal, 33(5), 681-701.

Sammons, P., Siraj-Blatchford, I., Sylva, K., Melhuish, E., Taggart, B. and Elliot, K. (2005), "Investigating the Effects of Pre-School Provision: Using Mixed Methods in EPPE Research", International Journal of Social Research Methodology, Vol. 8, No. 3: 207-224.

Samuel, S. E and Tyokoso, G (2014), Taxation and Revenue Generation: an Empirical Investigation of Selected States in Nigeria, Journal of Poverty, Investment and Development - An Open Access International Journal Vol.4

Sang, S., Lee, J. D. and Lee, J. (2009), "A Study on the Contribution Factors and Challenges to the Implementation of E-Government in Cambodia", Journal of Software, vol. 4, no. 6, International IT Policy Program (ITPP), Technology Management, Economics and Policy Program (TEMEP), Seoul National University, Seoul, Korea.

Sang, S., Lee, L.D. and Lee, J., (2009), E-Government challenges in Least Developed Countries (LDCs): A case of Cambodia, 11th international conference on Advanced Communication Technology 2009 (ICACT 2009), 15-18 Feb, : 2169 – 2175

Sani, A (2005), "contentious issues in tax administration and policy in Nigeria: A governor's perspective", First National Retreat on Taxation. Lagos: Joint Tax Board.

Sapiei, N. S. and Abdullah, M. (2008), "The Compliance Costs of the Personal Income Taxation in Malaysia", International Review of Business Research Papers Vol.4 No.5 October-November 2008 Pp.2219-230.

Sapsford, R. (2006), "Data collection and analysis", Sage Publications Ltd.

Sarantakos, S. (2007), A toolkit for quantitative data analysis, Palgrave MacMillian, Hamphire, 118, 2007.

Saunders, M., Lewis, P. and Thornhill, A. (2007), Research Methods for Business Students, 4th ed, Prentice Hall Financial Times, Harlow, 2007.

Schaupp, Ch.L.and Carter, L., (2008), The impact of trust, risk and optimism bias on E-file adoption : Journal Information System Frontiers, Publisher Springer Netherlands, DOI: 10.

Schaupp, L. and Carter, L. (2010), "The impact of trust, risk and optimism bias on E-file adoption, information systems frontiers", volume 12, No. 3: 299-309(11)

Schaupp, L. C., Carter, L. and Hobbs, J. (2010), "Electronic Tax Filing: The Impact of Reputation and Security on Adoption", Proceedings of the 43rd Hawaii International Conference on System Sciences – 2010 Science 598: 52–66.

Schaupp, L. C., Carter, L. and McBride, M. E. (2010). E-file adoption: A study of US taxpayers'' intentions. Computers in Human Behaviour, 26(4), 636-644.

Scholl, H. (2005), "Organisational transformation through e-government: Myth or reality?" Proceedings of EGOV, 2005: 1-11,Science Computer Review, 24(2), 172-188.

Scott, C (1961), Research on Mail Surveys, Journal of the Royal Statistical Society, Series A (General), Vol. 124(2):143-205.

Scottish Government (2011), "Impact of CIT on Economic Growth", Corporation Tax Discussion Paper Office of the Chief Economic Adviser Scottish Government 4.WR, St Andrew's House Regent Road Edinburgh EH1 3DG.

Sekaran, U. (1992), Research Methods for Business, 2nd ed., New York, Wiley.

Sena, O. and Paul, P. (2009), “Exploring the adoption of a service innovation: A study of Internet banking adopters and non-adopters”, Journal of Financial Services Marketing, 13(4): 284–299.

Shareef, M., Kumar, U., Kumar, V., Dwivedi, Y. (2009), “Identifying critical factors for adoption of e-Government”, Electronic Government, an International Journal (EG), Vol. 6, No. 1: 70-96.

Shareef, M., Kumar, U., Kumar, V., Dwivedi, Y. (2009),”identifying critical factors for adoption of e-government, electronic government, an international journal, vol. 6, no. 1:70-96.

Sheriden, W. and Riley, T. (2006), “Comparing e-government vs. e-governance”, Commonwealth Center for e-Governance

Silvani, C. A. and Radano, A. H. J. (1992), “Tax administration reform in Bolivia and Uruguay”, in: M Casanegra de Jantscher and R M Bird (eds), Improving Tax Administration in Developing Countries: 19–59 (Washington, DC: International Monetary Fund).

Silvani, C. and Baer, K. (1997). Designing a Tax AdministrationTA Reform Strategy: Experiences and Guidelines, Washington, DC (International Monetary Fund). Slovenia’’, 2010, Transylvanian Review of Administrative Sciences, no. 31E, : 48-57

Simmons, R. S. (2003), “An empirical study of the impact of corporate taxation on the global allocation of foreign direct investment: a broad tax attractiveness index approach”, Journal of International Accounting, Auditing and Taxation 12(2003): 105-120

Skillman, B. (1998), Fired up at the IRS, Accounting Technology, 14, 12–20.

Slemrod, J (1990), "High-income families and the tax changes of the 1980s: the anatomy of behavioral response", in: Martin Feldstein and James Poterba, eds., Empirical Foundations of Household Taxation (University of Chicago Press, Chicago; and NBER) pp. 169-192.

Slemrod, J. (1994), "Fixing the leak in Okun's bucket: optimal tax progressivity when avoidance can be controlled", Journal of Public Economics 55(1):41-51.

Slemrod, J. (1996), "Which is the simplest tax system of them all?" in: Henry Aaron and William Gale, eds., Economic Effects of Fundamental Tax Reform (The Brookings Institution, Washington, D.C.) :355 391.

Slemrod, J. (1998), "Methodological issues in measuring and interpreting taxable income elasticities", National Tax Journal 51(4):773-788.

Slemrod, J. (2001), "A general model of the behavioural response to taxation", International Tax and Public Finance 8(2):119-128.

Slemrod, J., and S. Yitzhaki (1987), "The optimal size of a tax collection agency", Scandinavian Journal of Economics 89(2):183-192.

Slemrod, J., and S. Yitzhaki (1994), "Analyzing the standard deduction as a presumptive tax", International Tax and Public Finance l (1):25-34.

Slemrod, J., and S. Yitzhaki (1996), "The cost of taxation and the marginal efficiency cost of funds", International Monetary Fund Staff Papers 43(1):172-198.

Slemrod, J., and S. Yitzhaki (2001), "Integrating expenditure and tax decisions: the marginal cost of funds and the marginal benefit of projects", National Tax Journal 54(2): 189-201. Slemrod, J., M. Blumenthal and C.W. Christian (2001), "Taxpayer response to an increased probability of audit: evidence from a controlled experiment in Minnesota", Journal of Public Economics 79(3): 455-483.

Slemrod, J., and W. Kopczuk (2001), "The optimal elasticity of taxable income", Journal of Public Economics, forthcoming.

Smart, M. (2013) "Applying the theory of planned behaviour and structural equation modelling to tax compliance behaviour: a New Zealand study", University of Canterbury, New Zealand.

Smith, I. and Salter, S. (1992), "the impact of emerging technologies on the information flow of multinational enterprises", Southwest Review of international Business Research,: 255

Smith, M. L (2011), "limitations to building institutional trustworthiness through e-government: a comparative study of two e-services in Chile", journal of information technology (2011) 26: 78–93.

Sohne, W (2003) Fundamentals of pressure distribution and soil compaction under tractor tires. Agric. Eng. 39, 276–281, 290

Solaru, A. O. (2005), "Paying online: The effect of consumer attitudes on e-governmente-Government", Submitted in Partial Fulfilments of the Requirements for the Second Year Conceptual Paper of the Executive Doctor of Management Program, Case Western Reserve University, February 2005

Somorin, T (2010), Tax Reform: Effort of Nigeria, A paper presented at a seminar on the reform of fiscal policies based on innovation and modernization of institutions in charge of collection and management of public resources organised by the African Training and Research Centre in Administration for Development, Lagos, Nigeria

Sorensen, P. B. (2006), "Can capital income taxes survive? And should they?", CESifo

Sorensen, P. B. (2008), "Company Tax Reform in the European Union", Economic Policy Research Unit, Institute of Economics, University of Copenhagen, Studies trade 6, DK-1455 Copenhagen K, Denmark.

Sorensen, P.B. (1995), "Changing views of the corporate income tax," National Tax Journal, 48.

Sosulski, M. R and Lawrence, C (2008), Mixing Methods for Full-Strength Results: Two Welfare Studies, Journal of Mixed Methods Research: 2; 121

Soyede, L. and Kajola, S.O (2006), Taxation Principles and Practice in Nigeria, Silicon Publishing Company, Ibadan, Nigeria

Sprecher, M. (2000), "Racing to e-Government: using the internet for citizen service"

Ssewanyana, J. and Busler, M. (2007), Adoption and usage of ICT in developing countries: Case of Ugandan firms, International Journal of Education and Development using Information and Communication Technology ICT (IJEDICT), 2007, Vol. 3, Issue 3, :. 49-59

Stack, S. and Kposowa, A. (2006), "the effect of religiosity on tax fraud acceptability: a cross-national analysis" journal for the scientific study of religion , vol.45:325-351, September 2006.

Stafford, T. F and Turan, A. H. (2011), "Online tax payment systems as an emergent aspect of governmental transformation" European Journal of Information Systems 20, 343-357 (May 2011).

Stake, R. E. (1995), "Case studies", in Denzin, N.K. and Lincoln, Y.S. (Eds), Handbook of Qualitative Research, Sage, Thousand Oaks, CA.

Stern,B.B, Royne, M.B, Stafford, T.F and Bienstock, C.C (2008), Consumer acceptance of online auctions: An extension and revision of the TAM, Psychology and Marketing Special Issue: New Developments in E-Commerce vol.25 (7): 619–63

Stoltzfus, K. (2004), Motivations for implementing e-government: An investigation of the global phenomenon, Proceedings of the 2005 National Conference on Digital Government Research dg.o2005 May 2005, Digital Government Research Centre:333−338

Strauss, A. and Corbin, J. (1998), "Basics of qualitative research: Techniques and procedures for developing grounded theory", Thousand Oaks, CA: Sage.

Strauss, J. (2008). "Rethinking institutional capacity and tax regimes: the case of the Sino-Foreign Salt Inspectorate in Republican China",

Struwig, F. W. and Stead, G.B. (2001), Planning, Reporting and Designing Research: Pearson South Africa.

Suleiman M., Mohammad K. A. and Amina B. (2010), "E-government in Nigeria: a catalyst for national development", University of Abuja, F.C.T., Nigeria.

Suluo, A.J.S. (2003), "The role of information and communication technologies in insurance industry: the case of Tanzania insurance organizations", MBA dissertation, Mzumbe University.

Sundresan P., Norita N. and Premma, R. (2006), "Successful IT technical framework for e-Governance based on Malaysian case study", International Congress on E-governance: 91-101.

Sweeney, J.C, Soutar, G.N and Johnson, L.W (1999) Retail service quality and perceived value, Journal of Retailing and Consumer Services 4 (1)

Swiston, A. J., Mühleisen, M. and Mathai, K. (2007), "U.S. Revenue Surprises: Are

Sykes, J. B (1976), "concise oxford dictionary of current English, Oxford University Press.

Taliercio, R (2004), 'Designing performance: the semi-autonomous revenue authority model in Africa and Latin-America', Policy Research working paper 3423. Washington, DC: World Bank.

Taliercio, R. (2000). "Administrative Reform as Credible Commitment: The Link between Revenue Authority Autonomy and Performance in Latin America," Paper delivered at the 2000 Annual Meeting of the American Political Science Association, Marriott Wardham Park, August 31-September 3, 2000.

Tallaha, A. M, Shukor, Z. A and Hassan, N. S. A. (2014), "Factors Influencing E-Filing Usage Among Malaysian Taxpayers: Does Tax Knowledge Matters?", Journal Pengurusan 40: 91 – 101

Tan, C. W., Pan, S. L and Lim, E. T. K (2005), "Managing Stakeholder Interests in e-Government Implementation: Lessons Learnt from a Singapore e-Government Project," Journal of Global Information Management (13)1: 31-53

Tan, L.M. and Veal, J. (2005), "Tax knowledge for undergraduates accounting majors: conceptual vs technical", Journal of Tax Research, Vol. 3 No. 1: 28-44.

Tan, M., and Teo, T.S.H. (2008), Factors influencing the adoption of Internet banking, Journal of the Association for Information Systems, 1, 1-42.

Tanzi, V. and Shome, P. (1993), "a primer on tax evasion", IMF staff papers: 807-828, vol. 40, No. 4. Washington D.C.

Tanzi, V. and Zee, H.H. (2006), "Taxation in a Borderless World: the role of information exchange'' in B. Wiman ed International Studies in Taxation The Hague: Kluwer Law

International Tax AdministrationTA Processes in Tamil Nadu, India. J.Tax Plan. Adm., 4 (1): 101-112

Tapscott, D. (1996), The Digital Economy, New York: McGraw Hill

Tashakkori, A. and Teddlie, C. (2003b), "The past and future of mixed methods research: from data triangulation to mixed model designs", in A. Tashakkori and C. Teddlie (Eds.), Handbook of mixed methods in social and behavioural research: 671-702, Thousand Oaks, CA: Sage..

Taylor, S. A. (2003), "American Tax System as examples of successful e-Government", Paper presented at the 18th BILETA Conference: Controlling Information in the Online Environment, London.

Taylor, S. and Todd, P (1995), "Assessing IT usage: The Role of Prior Experience", MIS Quaterly, 19(4):561-570

Taylor, S. and Todd, P (1995), Assessing IT usage: the role of prior experience, MIS Quarterly: 561–570

Taylor, S. and Todd, P (1995), Understanding information technology usage: a test of competing models, Information Systems Research 6 (2):144–176.

Teal, F. (2000), "real wages and the demand for skillled and unskilled male labour in Ghanaís technologies in sub-Saharan Africa", Journal of Information Science, 25 (4), 307-318.

Technical Committee on Business Taxation, Department of Finance, Canada.

Tellis, W. (1997), Introduction to Case Study, The Qualitative Report Vol 3 No2, 1997.

Terpker, S (1999), 'Revenue authorities: a comparison of the experiences of Ghana and East African Countries', Bulletin for International Fiscal Documentation 53, 4: 171–9

Therkildsen, O (2004), 'Autonomous tax administration in sub-Saharan Africa: the case of the Uganda Revenue Authority', Forum for Development Studies 31, 1: 59–88

Thirsk, W (1991), "Lessons from tax reform—An overview", WPS 576, The World Bank, Washington, D.C.

Thomas, C. S. and Carvalho, F. (2012), "Reaching the Third Billion: Arriving at Affordable Broadband to Stimulate Economic Transformation in Emerging Markets", the global information technology report Journal, vol.12, 2012.

Thomas, J. C., and Streib, G., (2003) "The new face of government: Citizen-initiated contacts in the era of e-governmente-Government", Journal of Public Administration Research and Theory, Vol. 13 No.1, : 83 – 102.

Thomas, M. (2008), Public Finance: The Principle of Taxation.

Thompson, R. L., C. A. Higgins, and J. M. Howell (1991), "Personal Computing: Toward a Conceptual Model of Utilization," MIS Quarterly (15) 1: 125-142

Thompson, R.L., Higgins, C.H. and Howell, J.M. (1991), "Towards a conceptual model of utilization", MIS Quarterly, 15(1), 125-143

Tomsett, E. (2008), "European property investment taxation", J. Pro.Fin., 1, 4, 33-78

Torgler, B. (2008), What do we know about tax fraud? An overview of recent developments, Social Research, 75(4), 1239-1245

Trochim, W. M. (2006), the research methods knowledge base, Retrieved November 13, 2003.

Turgut, H. (2007), "Examples of Successful E -Government Project", internet in Turkey Conference Panel.

Turner, L and Apelt, C. (2004), Globalization, innovation and information sharing in tax systems: the Australian experience of the diffusion and adoption of electronic lodgment. eJournal of Tax Research 2(2), 241–269.

Uadiale, O. M. (2010), "An Empirical Study of the Relationship between Culture and Personal Income Tax Evasion in Nigeria", European Journal of Economics, Finance and Administrative Sciences ISSN 1450-2275 Issue 20 (2010).

Uadiale, O. M., T.O. Fagbemi and J.O. Ogunleye (2010), "an empirical study of the tax administration processes in Tamil Nadu, India. J.Tax Plan. Adm., 4 (1): 101-112.

Udo, G.; Bagchi, K. K.and Kirs, P. J. (2008), "Diffusion of ICT in Developing Countries: A Qualitative Differential Analysis" Journal of Global Information Technology Management, 11(1), 6-27

UN (2002), "E-government for development: Final Communique of the International Conference on E-Government for Development", Palermo.

UN (2003), "First Annual Report of the Information and Communication Technologies Task Force", Economic and Social Council of the United Nations.

UNCTAD (2006), "ICT Solutions to Facilitate Trade at Border Crossings and in Ports", Technical Notes No. 94.

UNDESA (2008), "United Nations e-government survey 2008, New York: Department of Economic and Social Affairs Division for Public Administration and Development Management".

UNDP (2003), “Information and communication technologies for development in human development reports, New York: United Nations Development Programme”.

United Nations (2000): “Resource Mobilization for Economic Development: The Role of Tax”

United Nations (UN) (2006), UN Comtrade database, electronic data product, New York: United Nations Conference on Trade and Development (UNCTAD) (2006), UN Trains database, electronic data product, Geneva: United Nations.

United Nations Development Programme (2005), Arab Human Development Report

UNPAN (2011), Leveraging E-government at a Time of Financial and Economic Crisis.

Vasconcellos, M.V. and Rua, M.G. (2005), Impacts of internet use on public administration: a case study of the Brazilian tax administration (TA), Sustainable Development Center - CDS, Federal University of Brasília.

Vasudevan, R. (2007), “Changed Governance or Computerized Governance Computerized: Tax Administration Processes in Tamil Nadu, India”, Information Technology and International Development, Vol. 4(1): 101 – 112.

Vathanophas V., Krittayaphongphun N and Klomsiri C. (2008). “Technology acceptance toward egovernment initiative in Royal Thai Navy’’. Transforming Government: People, Process and Policy, 2(4): 256 – 282.

Venkatesh, V and Bala, H (2008), 'Technology Acceptance Model 3 and a Research Agenda on Interventions', Decision Sciences, vol. 39, (2): 273-315

Venkatesh, V. (1999), Creating favourable user perceptions: Exploring the role of intrinsic motivation, MIS Quart. 23(2) 239–260.

Venkatesh, V. (2000), A theoretical extension of the technology acceptance model: Four longitudinal field studies. Management Sci. 46 186–204.

Venkatesh, V. and Bala, H. (2008), “Technology acceptance model 3 and a research agenda on interventions”, Decision Sciences, 39(2): 273–315..

Venkatesh, V. and Davis, F.D (1996), A model of the antecedents of perceived ease of use: development and test, Decision Sciences 27 (3):. 451–481.

Venkatesh, V. and Davis, F.D (2000), “A theoretical extension of the technology acceptance model: four longitudinal field studies”, Management Science 46 (2):186–204

Venkatesh, V. and Morris, M.G (2000), Why do not men ever stop to ask for directions? Gender, social influence, and their role in technology acceptance and usage behaviour, MIS Quarterly 24 (1):115–139

Venkatesh, V., Morris, M. G., and Ackerman, P. L (2003), "A Longitudinal Investigation of Gender Differences in Individual Technology Adoption Decision Making Processes," Organizational behaviour and Human Decision Processes, forthcoming.

Venkatesh, V., Morris, M., Davis, G., and Davis, F. (2003), "User Acceptance of Information Technology: Toward a Unified View," MIS Quarterly, (27:3), 2003:425-478.

Venkatsh, V., Davis, F.D, and Morris, M. G (2007), "Dead or Alive?", The Development, Trajectory and Future Of Technology Adoption Research, Journal of the Association for information system, Volume 8, Issue 4, Article 9: 267-286

Vennila, S (2006), Growth and survival of Helicoverpa armigera and Spodoptera litura on transgenic Bt cotton, Journal of Cotton Research and Development 2006 Vol. 20 No. 1: 131-133

Viboonthanakul, S. (2009), "smuggling via e-commerce: effect on tax revenue", journal of international trade law and policy vol. 8 no. 3, 2009: 272-290.

Victor-Nyambo, G.T. (2009), "The role of information and communication technology (ICT) in Taxation: the case of Large Taxpayer Department Tanzania Revenue Authority", MBA dissertation, Mzumbe University.

Visser, W. and Twinomurinzi, H. (2009), e-Government and public service delivery: Enabling ICT to put "people first''. A case study from South Africa, Journal of Systemics, Cybernetics and Informatics 6(6):36-41.

von Soest, C (2006), 'The African state and the capability to raise revenue: a comparative study of the tax administration in Zambia and Botswana', Doctoral dissertation, University of Leipzig, Institute of African Studies.

von Soest, C (2008), 'Donor support for tax administration reform in Africa: experiences from Ghana, Tanzania, Uganda and Zambia', German Development Institute, discussion paper 2, Bonn: German Development Institute.

Wadhawan, S and Gray, C. S (1998), "Enhancing Transparency in Tax Administration: A Survey", African Economic Policy Discussion Paper No. 3, Project EAGER.

Waidyasekera, D. D. M. (2007), "The role of taxation in development strategy", Daily News, The Associated Newspapers of Ceylon Ltd, Sri Lanka''s National Newspapers, Tuesday, 17 July 2007.

Walczuch, R., Lemmink, J. and Streukens, S. (2007), The effect of service employees' technology readiness on technology acceptance, Information and Management 44: 206–215

Walczuch, R.; Van Braven, G.; Lundgren, H (2000), Internet adoption barriers for small firms in the Netherlands, Eur. Manag. J, 18, 561–572.

Walsh, K. C. (2012), The Ghost that Slayed the Mandate, University of Richmond,

Walsh, S. T., and White, C. G. (2000), "congress's goal of increasing electronic filing: an assessment based on the technology-adoption literature". Accounting Horizon, 14(4), 403-425

Wang, H., Xu, H., Chan, H. C., and Chen, L. (2002), "Critical success factors for web-based organisational IT training", in Lecture Notes in Computer Science: Systems advances in based learning, 2436,

Wang, X. (2012), "Factors influencing citizen adoption for government e-tax service", Swedish Business School, Orebro University,

Wang, Y. (2003) "The Adoption of Electronic Tax Filing Systems: An Empirical Study", Government Information Quarterly, vol. 20, no. 4, 333–352.

Wang, Y.M., Wang, Y.S. and Yang, Y.F. (2010), "Understanding the determinants of RFID adoption in the manufacturing industry", Technological Forecasting and Social Change, Vol. 77: 803-15

Wang, Y.S. (2002),"The adoption of electronic tax filing systems: An empirical study, Government" Information Quarterly, 20, 333-352

Wangpipatwong S and Chutimaskul W. (2009), "Quality Enhancing the Continued Use of E-Government Web Sites: Evidence from E-Citizens of Thailand''. International Journal of Electronic Government Research, 5(1): 19-35.

Warkentin, M., Gefen, D., Pavlou, P. and Rose, G. (2002) "Encouraging Citizen Adoption of e-government by Building Trust", Electronic Markets, vol. 12: 157-162.

Welman, J.C. and Kruger, S. J. (1999), Research Methodology for the Business and Administrative Sciences, Cape Town: Oxford University Press, 1999.

Welsh, J. A., and White, J. F. (1981), "A small business is not a little big business", Harvard Business Review, 59(4), 18-32.

West, D. M. (2002), "State and federal e-government in the United States", Brown University, Providence, 2002.

Wilkinson, M (1992), "taxation" the macmillan press ltd. Houndmills, Basingstoke, Hampshire, RG21 2XS.

Williams, S. (1998), Tourism Geography, Psychology Press, New York, NY10001.

Wood, C (2004) Marketing and e-commerce as tools of development in the Asia-Pacific region: a dual path, International Marketing Review

World Bank (1973), Agricultural Sector Survey: Nigeria, Report No. PA-115, Washington DC: World Bank.

World Bank (1990), Accelerated Development in Sub-Saharan Africa: An Agenda for Action, Washington D.C.: World Bank

World Bank (1996), Nigeria Federal Public Expenditure Review, Report No. 14447-UNI, Washington DC: World Bank.

World Bank (2001), "Public Expenditure Issues in Rural Development", in: Nigeria Rural Sector Strategy Study: Volume II, Report No. 27470-UNI, Washington DC: World Bank. World Bank (2006), Getting Agriculture Going in Nigeria: Framework For a National Growth Strategy, Report No. 34618-NG, Washington DC: World Bank.

World Bank (2003) Emerging Role of CIO in e-Governance in Developing Countries- A corporate perspective.

World Bank (2007), World Development Indicators database, electronic data product, Washington DC: World Bank.

World Bank (2009), Definition of e-government Available online

Worlu, C. N. and Emeka, N. (2012), "Tax revenue and economic development in Nigeria": A Macro econometric approach, Academic Journal of Interdisciplinary studies vol. 2,

Wu, I. L., and Chen, J. L. (2005), "An extension of trust and TAM model with TPB in the initial adoption of on-line tax: An empirical study", International Journal of Human–Computer Studies, 62, 784–808.

Wu, J., and Lederer, A. (2009), "A meta-analysis of the role of environment-based voluntariness in information technology acceptance", MIS Quarterly, 33, 419.

Wu, J., and Liu, D. (2007), "The effects of trust and enjoyment on intention to play online games", Journal of Electronic Commerce Research, 8, 128–140.

Wu, K., Zhao, Y., Zhu, Q., Tana, X. and Zheng, H. (2011), " A meta-analysis of the impact of trust on technology acceptance model: Investigation of moderating influence of subject

and context type" International Journal of Information Management, Volume 31, Issue 6: 572–581

Xuyang, W. (2012), "Factors influencing citizen adoption for government e-tax service", Swedish Business School, Orebro University, Informatics, Anders Avdic.

Yin, R. (1994), Case Study Research, Design and Methods, 2 edn, Sage Publications, London.

Yin, R. (2009), Case Study Research, Design and Methods, Sage Publications, London.

Younis, M. (2008), "The Case for Corporate Income Tax Cuts", 601 Pennsylvania Avenue NW, Suite 900, South Building Washington, DC 20004 202.220.3082, No. 633
Yu, C. (2002), "ICTs and gender equality – women's rights and the internet", Workshop on "The world summit on the information society: the Asian response": 22-24, Bangkok.

Zakaria, Z,, Hussin, Z. H., Zakaria, Z., Noordin, N. B., Sawal, M. Z. H. B. M., Saad, S. F. B. M. and Kamil, S. B. O. (2009), "E-Filing System Practised by Inland Revenue Board (IRB): Perception towards Malaysian Taxpayers", Canadian Academy of Oriental and Occidental Culture, Cross-cultural Communication Vol.5, No.4:10-20..

Zammit, C. (2000), "Politics and policy: friend or foe of sustainable land use", Land Use Study Centre, University of Southern Queensland, Toowoomba

Zhou, G. and Madhikeni, A. (2013), Systems, Processes and Challenges of Public Revenue Collection in Zimbabwe, American International Journal of Contemporary Research, 3: 49-60.

Zikmund, W. J. (2003), Business Research Methods, 3rd ed., Chicago, the Dryden Press.

Zineldin, M. (2007), The Quality of Higher Education and Student Satisfaction Self-assessment and Review process A TRM Philosophy and 5Qs Model, Paper presented at Second International Conference Education, Economics, and Law: Traditions and Innovations, Växjö University, Sweden.

Appendix A

Table 5.28: Estimation of Logit Model

Using ICT facilitates the company income tax collection process[a]	B	Std. Error	Wald	df	Sig.	Exp(B)
Agree: Intercept	-1.973	.404	23.843	1	.000	
[B21=1]	-2.261	1.795	1.587	1	.208	.104
[B21=2]	-.095	.710	.018	1	.893	.909
[B21=3]	-.202	.787	.066	1	.797	.817
[B21=4]	-.133	.485	.075	1	.785	.876
[B21=5]	0[c]			0		
[B22=1]	1.736	1.381	1.581	1	.209	5.676
[B22=2]	2.154	.791	7.411	1	.006	8.623
[B22=3]	2.146	.828	6.722	1	.010	8.552
[B22=4]	1.175	.442	7.060	1	.008	3.238
[B22=5]	0[c]			0		
[B23=1]	2.011	3539.909	.000	1	1.000	7.471
[B23=2]	-.107	1.652	.004	1	.948	.898
[B23=3]	1.322	1.274	1.075	1	.300	3.749
[B23=4]	.808	.420	3.697	1	.055	2.244
[B23=5]	0[c]			0		
[B24=1]	-11.607	1005.966	.000	1	.991	9.103E-06
[B24=2]	-16.147	3393.964	.000	1	.996	9.712E-08
[B24=3]	-.118	.744	.025	1	.873	.888

[B24=4]	.274	.403	.463	1	.496	1.316
[B24=5]	0[c]			0		
[B25=2]	-13.905	1005.963	.000	1	.989	9.141E-07
[B25=3]	-.735	1.646	.199	1	.655	.480
[B25=4]	-.370	.412	.806	1	.369	.691
[B25=5]	0[c]			0		
[B26=2]	43.584	3641.479	.000	1	.990	9.141E-07
[B26=3]	1.873	1.619	1.339	1	.247	6.510
[B26=4]	.734	.398	3.399	1	.065	2.083
[B26=5]	0[c]			0		
[B27=1]	-.135	.358	.142	1	.706	.874
[B27=2]	0[c]			0		
[B28=1]	-.006	.497	.000	1	.990	.994
[B28=2]	0[c]			0		
Neither Agree nor Disagree: Intercept	-27.429	1250.058	.000	1	.982	
[B21=1]	8.713	8992.854	.000	1	.999	6080.896
[B21=2]	-2.053	1899.594	.000	1	.999	.128
[B21=3]	-7.823	18037.368	.000	1	1.000	.000
[B21=4]	-.132	829.343	.000	1	1.000	.876
[B21=5]	0[c]			0		
[B22=1]	-51.096	6288.145	.000	1	.994	6.447E-23
[B22=2]	-7.117	2654.262	.000	1	.998	.001

[B22=3]	-13.881	18389.871	.000	1	.999	9.368E-07
[B22=4]	-2.563	1453.518	.000	1	.999	.077
[B22=5]	0[c]			0		
[B23=1]	28.314	20076.342	.000	1	.999	1979.300
[B23=2]	13.475	7287.570	.000	1	.999	711696.999
[B23=3]	21.935	1664.256	.000	1	.989	3358.241
[B23=4]	1.543	721.882	.000	1	.998	4.680
[B23=5]	0[c]			0		
[B24=1]	-31.847	9354.519	.000	1	.997	1.477E-14
[B24=2]	-16.554	19499.534	.000	1	.999	6.465E-08
[B24=3]	-4.342	1458.120	.000	1	.998	.013
[B24=4]	8.967	1732.654	.000	1	.996	7837.536
[B24=5]	0[c]			0		
[B25=2]	26.265	18966.305	.000	1	.999	2550.489
[B25=3]	20.641	1181.142	.000	1	.986	921.701
[B25=4]	-3.414	1039.359	.000	1	.997	.033
[B25=5]	0[c]			0		
[B26=2]	5.766	11510.707	.000	1	1.000	319.290
[B26=3]	-.628	7677.174	.000	1	1.000	.534
[B26=4]	4.396	1373.093	.000	1	.997	81.141
[B26=5]	0[c]			0		
[B27=1]	2.962	1039.360	.000	1	.998	19.339

[B27=2]	0[c]			0		
[B28=1]	3.797	1655.449	.000	1	.998	44.575
[B28=2]	0[c]			0		
Disagree Intercept	-16.677	463.975	.001	1	.971	
[B21=1]	24.243	1315.170	.000	1	.985	3378.915
[B21=2]	3.291	462.307	.000	1	.994	26.868
[B21=3]	1.629	538.361	.000	1	.998	5.099
[B21=4]	.258	524.900	.000	1	1.000	1.294
[B21=5]	0[c]			0		
[B22=1]	-19.776	1505.389	.000	1	.990	2.580E-09
[B22=2]	-21.745	1000.707	.000	1	.983	3.600E-10
[B22=3]	2.145	574.870	.000	1	.997	8.539
[B22=4]	1.185	439.650	.000	1	.998	3.271
[B22=5]	0[c]			0		
[B23=1]	13.995	9032.142	.000	1	.999	1196951.375
[B23=2]	22.856	684.832	.001	1	.973	843.476
[B23=3]	.366	859.143	.000	1	1.000	1.442
[B23=4]	-.837	364.048	.000	1	.998	.433
[B23=5]	0[c]			0		
[B24=1]	-24.752	9062.999	.000	1	.998	1.780E-11
[B24=2]	1.878	745.971	.000	1	.998	6.540
[B24=3]	1.807	538.781	.000	1	.997	6.095

[B24=4]	.428	380.458	.000	1	.999	1.534
[B24=5]	0[c]			0		
[B25=2]	-6.955	6752.695	.000	1	.999	.001
[B25=3]	-1.754	977.477	.000	1	.999	.173
[B25=4]	-.738	385.193	.000	1	.998	.478
[B25=5]	0[c]			0		
[B26=2]	11.287	0.000		1		79743.298
[B26=3]	4.201	816.805	.000	1	.996	66.777
[B26=4]	.756	301.970	.000	1	.998	2.129
[B26=5]	0[c]			0		
[B27=1]	-.074	297.673	.000	1	1.000	.928
[B27=2]	0[c]			0		
[B28=1]	1.117	342.171	.000	1	.997	3.057
[B28=2]	0[c]			0		
Strongly Disagree: Intercept	-27.789	1230.174	.001	1	.982	
[B21=1]	3.169	12171.236	.000	1	1.000	23.774
[B21=2]	-22.182	2416.111	.000	1	.993	2.325E-10
[B21=3]	-6.221	1978.942	.000	1	.997	.002
[B21=4]	15.799	1199.438	.000	1	.989	72694.961
[B21=5]	0[c]			0		
[B22=1]	16.422	3728.947	.000	1	.996	135493.001
[B22=2]	27.606	1270.376	.000	1	.983	97556.028

[B22=3]	5.826	1879.548	.000	1	.998	339.091
[B22=4]	-10.538	338.488	.001	1	.975	2.650E-05
[B22=5]	0[c]			0		
[B23=1]	-20.446	5787.130	.000	1	.997	1.320E-09
[B23=2]	-51.265	173426.207	.000	1	1.000	5.446E-23
[B23=3]	6.003	4009.604	.000	1	.999	404.456
[B23=4]	-10.144	916.972	.000	1	.991	3.932E-05
[B23=5]	0[c]			0		
[B24=1]	63.696	5975.071	.000	1	.991	45986.000
[B24=2]	34.660	768.954	.002	1	.964	11285.000
[B24=3]	7.994	2622.368	.000	1	.998	2963.242
[B24=4]	-12.240	504.451	.001	1	.981	4.833E-06
[B24=5]	0[c]			0		
[B25=2]	27.047	5438.714	.000	1	.996	55758.966
[B25=3]	-7.556	173416.096	.000	1	1.000	.001
[B25=4]	-9.445	246.570	.001	1	.969	7.906E-05
[B25=5]	0[c]			0		
[B26=2]	2.004	173624.928	.000	1	1.000	7.418
[B26=3]	2.176	12941.271	.000	1	1.000	8.815
[B26=4]	-16.052	1451.341	.000	1	.991	1.068E-07
[B26=5]	0[c]			0		
[B27=1]	10.482	244.809	.002	1	.966	35654.004

[B27=2]	0[c]			0		
[B28=1]	6.069	1206.348	.000	1	.996	432.216
[B28=2]	0[c]			0		

a. The reference category is: Strongly Agree.

b. Floating point overflow occurred while computing this statistic. Its value is therefore set to system missin

c. This parameter is set to zero because it is redundant.

Appendix B

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DE MONTFORT UNIVERSITY
LEICESTER

20th September 2013

To whom it may concern

Re: Thomas OLUSHOLA

This is to confirm that Mr. Thomas Olushola is currently conducting a doctoral level research on "The Impact of ICT on Company Income Tax Collection in Developing Countries – a Case Study of Nigeria" in the Department of Accounting and Finance, Leicester Business School, De Montfort University, United Kingdom.

This research is in partial fulfilment of his Doctor of Philosophy (PhD) degree and will fully comply with the University's code of conduct on ethics and associated procedures. Therefore, respondents and focus organisations are guaranteed anonymity and confidentiality.

I shall be grateful for all the co-operation and assistance extended to him. Please do feel free to contact me in case of further information or enquiries.

Yours faithfully,

Faculty of Business & Law
20 SEP 2013

Ashok Patel BA BCom MSc AICWA ACMA MBCS FHEA
Director of CAL Research and Principal Lecturer

CAL Research & Software Engineering Centre, 3.56 Hugh Aston Building, The Gateway, Leicester LE1 9BH.
Tel/Fax: (0116) 257 7193 / **Email:** apatel@dmu.ac.uk

Appendix B1

Questionnaire items

Introduction of ICT in CIT collection has enhanced and improved revenue generation:

Perceived Usefulness (Source: Davis, 1989 and Chuttur, 2009)

B1: The use of ICT has minimised errors in CIT return processing

B2: Using ICT facilitates the company income tax collection process

B3: ICT allows using available data more effectively to improve forecasting of fiscal revenue

B4: Using the ICT helps to file company income tax (CIT) returns

B5: The ICT system facilitates faster payments of CIT than manual system

Perceived Ease of Use (Source: Davis, 1989 and Wu, et al, 2011)

B1: The use of ICT has minimised errors in CIT return processing

B4: Using the ICT helps to file company income tax (CIT) returns

The impact of ICT on tax compliance and compliance cost.

Perceived Usefulness (Source: Davis, 1989 and Gefen and Straub, 2000)

B6: ICT enhances voluntary compliance

B7: Using ICT to collect tax revenue (CIT) reduces costs of running and maintaining revenue agencies

B8: The use of ICT in CIT collections reduces the costs of legislative enactment relating to the tax system

B9: ICT in CIT collections ensures greater level of compliance and tax revenue increase

B11: Using ICT in collection of CIT increases the overall revenue collection

Perceived Ease of Use (Source: Davis, 1989 and Moody et al, 2010)

B10: ICT enables quick detection for no-payment of CIT

B12: E-tax system reduces processing time and reasonably shortened responding to taxpayers queries

The use of ICT and disseminations of company income tax information

Perceived Usefulness (Source: Davis, 1989 and Lee, 2009)

B14: The introduction of e-tax collection system has increased CIT revenue

Perceived Ease of Use (Source: Davis, 1989 and Wu, et al, 2011)

B13: ICT enhances companies' (taxpayers) access to tax related information and instructions which make it easier and more convenient for taxpayers to abide by revenue laws.

B15: The centralization of e-tax revenue collection system allows for increased and timely access to information that would otherwise take too much time and effort to generate from the available hard copy records.

B16: ICT improves service standards (provides communication facilities and access to information to assist taxpayers and to save response times)

The ICT and transparency of CIT collections

Perceived Usefulness (Source: Davis, 1989 and Bebasat and Barki, 2007)

B18: The use of ICT reduces the need for direct interaction with the tax officials thereby reducing corruption

Perceived Ease of Use (Source: Davis, 1989 and Azmi, et al,2010)

B17: ICT allows automatic production of tax reports and feedback required for control and risk management purposes

B18: The use of ICT reduces the need for direct interaction with the tax officials thereby reducing corruption

B19: ICT allows taxpayers to make their complaints and provide information to any member of tax official about taking bribes.

B20: ICT makes reconciliation of CIT returns easy

Ways in which ICT can further enhance effectiveness and efficiency in company income tax collection

Perceived Usefulness (Source: Davis, 1989, Venkatesh and Davis, 2000; King and He, 2006)

B22: All members of staff in FIRS are trained and educated on E-tax filing and payments system

B23: E-tax system has enabled FIRS staff to handle more taxpayers in a given period compared to manual system

Perceived Ease of Use (Source: Davis, 1989; Lee, 2009 and Park, 2009)

B21: The ICT infrastructure and facilities are accessible to all members of staff

B24: On-going consultation enables staff feedback on how the e-tax system should actually function and operate

B25: There are expectations of improvement with the ICT in CIT collections in the future

B26: ICT also has the potential to improve interaction between tax authority and taxpayers, fostering transparency and accountability in administration of company income tax collections.

B27: Which area do you anticipate future improvements to be implemented with regards to the e-tax system in collections of CIT?

B28: Do you face any challenge through the use e-tax system in collections of CIT as a tax officer?

If yes, what are some of the challenges?

Semi-Structure Interview items

Perceived Usefulness (Source: Davis, 1989, Kumar et al, 2008 and Legris et al, 2003)

C3: How is ICT being used to measure companies' satisfaction?

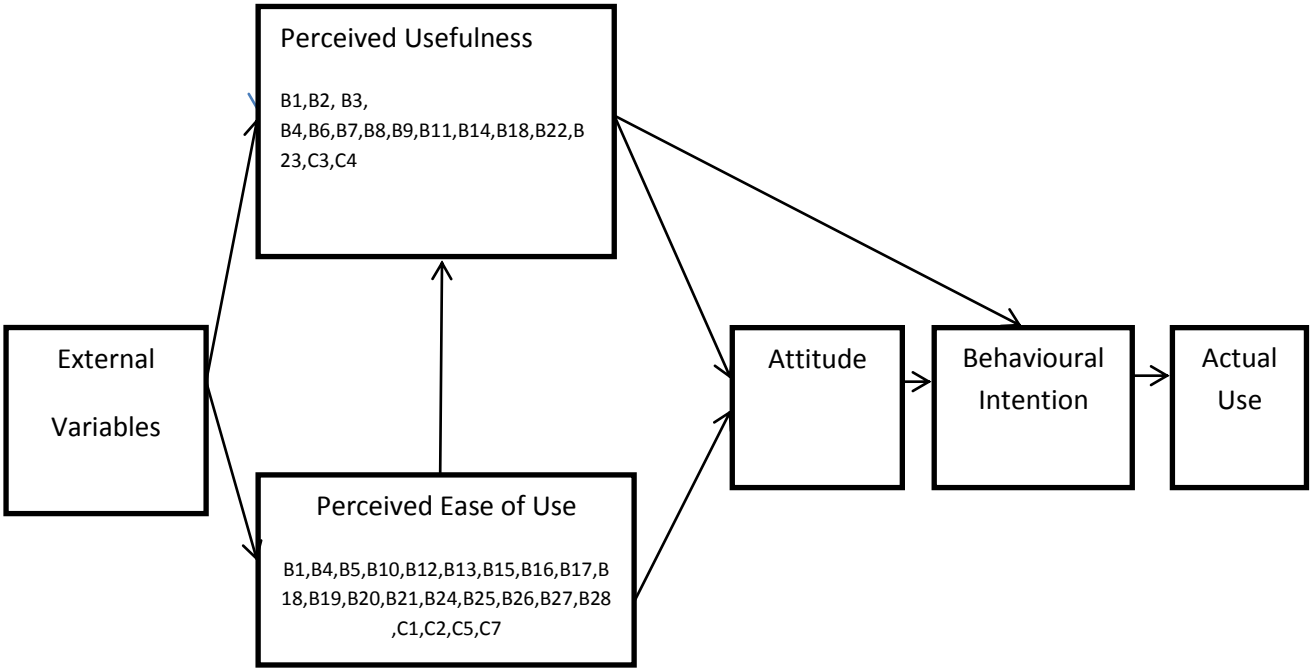
C4: What ICT initiatives are being used to increase the accessibility of tax information?
C6: In what ways would this ICT initiative reduce unnecessary expenditure for the tax authority?

Perceived Ease of Use (Source: Davis, 1989, Moody et al, 2010 and Azmi et al, 2010)

C1: How is ICT assisting or improving in the delivery of the service to companies as taxpayers of CIT?
C2: How is ICT being used to measure service improvement to the companies as taxpayers?

C5: How accessible is this ICT initiatives to companies who do not have ICT infrastructure?
C7: How does ICT improve the provisioning of information to the companies about tax systems?

Relating the Technology Acceptance Model to Questionnaire & Semi-Structure Interview (Davis, 1989)



Perceived Behaviour al Control (Source: Ajzen, 2010and Lutz, 2011)

B21: The ICT infrastructure and facilities are accessible to all members of staff

B22: All members of staff in FIRS are trained and educated on E-tax filing and payments system

B23: E-tax system has enabled FIRS staff to handle more taxpayers in a given period compared to manual system

B24: On-going consultation enables staff feedback on how the e-tax system should actually function and operate

B25: There are expectations of improvement with the ICT in CIT collections in the future

B26: ICT also has the potential to improve interaction between tax authority and taxpayers, fostering transparency and accountability in administration of company income tax collections.

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B28: Do you face any challenge through the use e-tax system in collections of CIT as a tax officer?

If yes, what are some of the challenges?

Semi-Structure Interview items

Perceived Behaviour al Control (Source: Ajzen, 1985 and Lutz, 2011)

C3: How is ICT being used to measure companies' satisfaction?

C4: What ICT initiatives are being used to increase the accessibility of tax information?

C5: How accessible is this ICT initiatives to companies who do not have ICT infrastructure?

C6: In what ways would this ICT initiative reduce unnecessary expenditure for the tax authority?

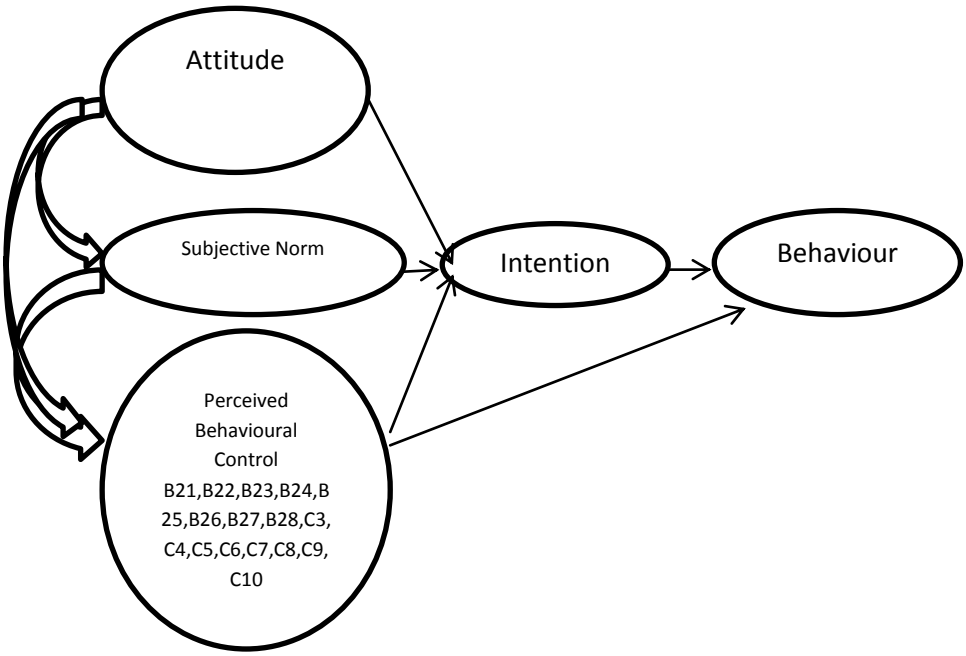
C7: How does ICT improve the provisioning of information to the companies about tax systems?

C8: How of accessibility of the information to the companies as taxpayers?

C9: How is ICT supporting the companies to spend fewer resources in obtaining the product or service? In what way is ICT supporting tax process reengineering?

C10: What are the factors militating against the application of ICT in company income tax collection?

Relating the Theory of Planning Behaviour (Perceived Behavioural Control) to Questionnaire & Semi-Structure Interview (Ajzen, 1985)



Appendix B2

Questionnaire – Sample.

The aim of this study is to explore the impact of ICT on collection of company income tax in Nigeria. The results of this research will be used for academic purposes and are completely confidential. Please complete all sections by selecting the best responses for each question. Your participation in the survey is greatly appreciated.

Thank you.

Section A – Demographic Profile

This section aims at gathering background information of the respondents and awareness of ICT (E-tax). This included gender, age, experience, and status and literacy level.

1. Gender: Male ☐ Female ☐

2. What is your age? 20 and Below ☐ 21-29 ☐ 30-39 ☐ 40-49 ☐ 50-59 ☐ 60 or above ☐

3. What is your current position? ……

4. How many years' experience have you had in your current position?

Below 2 years ☐ 3-5 years ☐ 6-10 years ☐ more than 10 years ☐

5. What is your qualification?

OND ☐ HND/BSC ☐ MSC/PHD ☐ ACA/ACIT/ACCA ☐ Other specify ☐

6. Do you agree with the introduction of ICT in company income tax collections?

Yes ☐ No ☐

7. Can the use of ICT be beneficial in CIT collections?

Yes ☐ No ☐

8. Can introduction of ICT in CIT collections reduce cumbersome manual procedures?

Yes ☐ No ☐

9. Can ICT in CIT collections introduce a new cumbersome procedure? Yes ☐

No ☐

Section B – The ICT and CIT collections

This section includes: Company income tax collection and ICT, The impact of ICT on tax compliance and compliance cost, The use of ICT and disseminations of company income tax information, The ICT and transparency of CIT collections and Ways in which ICT can further enhance effectiveness and efficiency in company income tax collections.

Company income tax collection and ICT:

		5 Strongly agree	4 Agree	3 Neither Agree nor Disagree	2 Disagree	1 Strongly Disagree
B1	The use of ICT has minimised errors in CIT return processing					
B2	Using ICT facilitates the company income tax collection process					
B3	ICT allows using available data more effectively to improve forecasting of fiscal revenue					
B4	Using the ICT helps to file company income tax (CIT) returns					
B5	The ICT system facilitates faster payments of CIT than manual system					

The impact of ICT on tax compliance and compliance cost.

		5 Strongly agree	4 Agree	3 Neither Agree nor Disagree	2 Disagree	1 Strongly Disagree
B6	ICT enhances voluntary compliance					
B7	Using ICT to collect tax revenue (CIT) reduces costs of					

	running and maintaining revenue agencies					
B8	The use of ICT in CIT collections reduces the costs of legislative enactment relating to the tax system					
B9	ICT in CIT collections ensures greater level of compliance and tax revenue increase					
B10	ICT enables quick detection for no-payment of CIT					
B11	Using ICT in collection of CIT increases the overall revenue collection					
B12	E-tax system reduces processing time and reasonably shortened responding to taxpayers queries					

The use of ICT and disseminations of company income tax information

		5 Strongly agree	4 Agree	3 Neither Agree nor Disagree	2 Disagree	1 Strongly Disagree
B13	ICT enhances companies' (taxpayers) access to tax related information and instructions which make it easier and more convenient for taxpayers to abide by revenue laws.					
B14	The introduction of e-tax collection system has increased CIT revenue					
B15	The centralization of e-tax revenue collection system allows for increased and timely access to information that would otherwise take too much time and effort to generate from					

	the available hard copy records.					
B16	ICT improves service standards (provides communication facilities and access to information to assist taxpayers and to save response times)					

The ICT and transparency of CIT collections

		5 Strongly agree	4 Agree	3 Neither Agree nor Disagree	2 Disagree	1 Strongly Disagree
B17	ICT allows automatic production of tax reports and feedback required for control and risk management purposes					
B18	The use of ICT reduces the need for direct interaction with the tax officials thereby reducing corruption					
B19	ICT allows taxpayers to make their complaints and provide information to any member of tax official about taking bribes.					
B20	ICT makes reconciliation of CIT returns easy					

Ways in which ICT can further enhance effectiveness and efficiency in company income tax collection

		5 Strongly agree	4 Agree	3 Neither Agree nor Disagree	2 Disagree	1 Strongly Disagree
B21	The ICT infrastructure and facilities are accessible to all members of staff					
B22	All members of staff in FIRS are					

	trained and educated on E-tax filing and payments system					
B23	E-tax system has enabled FIRS staff to handle more taxpayers in a given period compared to manual system					
B24	On-going consultation enables staff feedback on how the e-tax system should actually function and operate					
B25	There are expectations of improvement with the ICT in CIT collections in the future					
B26	ICT also has the potential to improve interaction between tax authority and taxpayers, fostering transparency and accountability in administration of company income tax collections.					

B27. Which area do you anticipate future improvements to be implemented with regards to the e-tax system in collections of CIT?

……

……
……..

……
……
…….

B28. Do you face any challenge through the use e-tax system in collections of CIT as a tax officer?

Yes ☐ No ☐

If yes, what are some of the challenges?

…….

……

Section C

Interview Questions:

C1. How is ICT assisting or improving in the delivery of the service to companies as taxpayers of CIT?
C2. How is ICT being used to measure service improvement to the companies as taxpayers?
C3. How is ICT being used to measure companies' satisfaction?
C4. What ICT initiatives are being used to increase the accessibility of tax information?
C5. How accessible is this ICT initiatives to companies who do not have ICT infrastructure?
C6. In what ways would this ICT initiative reduce unnecessary expenditure for the tax authority?
C7. How does ICT improve the provisioning of information to the companies about tax systems?
C8. How of accessibility of the information to the companies as taxpayers?
C9. How is ICT supporting the companies to spend fewer resources in obtaining the product or service? In what way is ICT supporting tax process reengineering?
C10. What are the factors militating against the application of ICT in company income tax collection?

Appendix C 1

DIRECT REPORTS GROUP

PLANNING, REPORTING AND STATISTICS DEPARTMENT

TAX REVENUE COLLECTION FROM 1990 -2012

(NAIRA IN BILLION)

TAX TYPES / YEAR	PPT N=b	CIT N=b	VAT N=b	EDT N=b	CONS N=b	NITDEF N=b	TOTAL N=b
1990	26.9	3	-	-	-	-	**29.9**
1991	38.6	3.8	-	-	-	-	**42.4**
1992	51.5	5.4	-	-	-	-	**56.9**
1993	59.2	9.6	-	-	-	-	**68.8**
1994	42.8	12.3	7.3	-	-	-	**62.3**
1995	42.9	21.9	20.8	-	-	-	**85.5**
1996	47.5	23.1	32.5	3.3	-	-	**106.4**
1997	64.3	27.8	35.3	2.9	0.5	-	**130.8**
1998	24.6	33.3	37.6	3.2	0.7	-	**99.4**
1999	71.1	46.2	47.8	5.7	1.1	-	**171.9**
2000	334.5	53.3	58	8.3	1.2	-	**455.3**
2001	407.1	69.4	91.7	16.2	2.2	-	**586.6**
2002	224.4	89.1	108.6	10.1	1.7	-	**433.9**
2003	438	114.8	136.4	9.7	4.2	-	**703.1**
2004	878.6	130.8	163.3	17.1	5	-	**1,194.8**
2005	1,352.20	170.2	192.7	21.8	4.9	-	**1,741.8**
2006	1,349.50	246.7	232.7	28.4	5.9	-	**1,863.2**
2007	1,132.00	332.4	312.6	59.6	10.3	-	**1,846.9**
2008	2,060.90	420.6	401.7	59.5	27	2.5	**2,972.2**
2009	939.4	600.6	481.4	139.5	29.9	6.8	**2,197.6**
2010	1,480.4	666.1	564.9	89.2	32.9	5.9	**2,839.3**
2011	3,070.6	715.4	659.2	130.7	43.9	8.7	**4,628.5**
2012	3,201.3	846.6	710.6	188.4	51.6	9.1	**5,007.6**

Source: CBN statistic bulletin 2012 issue

Appendix C **2**

Courts Cases- Company income tax compliance

S/ No	Name of Parties	Appeal No	Period cover	Amount	Remarks
1	FEDERAL INLAND REVENUE SERVICE Vs VOLEX A. NIGERIA LIMITED	TAT/LZ/018/ 2013	2010 - 2012	N1.2million.	CIT
2	Weatherford Services S.D.E.R.L. (WSSDRL) Vs FEDERAL INLAND REVENUE SERVICE	TAT/LZ/013/ 2014	2007-2011	USS1,481,806.49	CIT
4	FEDERAL INLAND REVENUE SERVICE Vs WATER PARKS LTD	TAT/LZ/008/ 2013	2007 – 2010	N2,191,752.00	CIT
5	KANDELITE ENGINEERING COMPANY LTD Vs FEDERAL INLAND REVENUE SERVICE	TAT/LZ/007/ 2011	2006-2010	N69,792,739.14	CIT
6	HALLIBURTON ENERGY SERVICES NIGERIA LTD Vs FEDERAL INLAND REVENUE SERVICE	TAT/LZ/003/ 2011	2009	US$167,700,000	CIT
7	FEDERAL INLAND REVENUE SERVICE Vs OMEGA SAVINGS AND LOANS LIMITED	TAT/LZ/010/ 2011	2007-2008	N19,345422.54 *N8,236,379.89	CIT Penalty + Interest
9	OANDO SUPPLY & TRADING LTD Vs FEDERAL INLAND REVENUE SERVICE	TAT/LZ/041/ 2010	2004 - 2006	N1,354,465.00	CIT
10	MTN NIGERIA COMMUNICATIONS LIMITED Vs FEDERAL INLAND REVENUE SERVICE	TAT/LZ/036/ 2014	2005-2006	N3,397,039,007.00	CIT
11	**ADDAX PETROLEUM DEVELOPMENT (NIGERIA) LIMITED Vs FEDERAL INLAND REVENUE SERVICE**	TAT/LZ/015/ 2011	2002-2004, August - Sept, 2005.	US$11,876,632.00	CIT
12	FEDERAL INLAND	TAT/LZ/010/	2004-	₦10,798,601.73	CIT

	REVENUE SERVICE Vs OMEGA SAVINGS AND LOANS LIMITED	2011	2005,		
14	**ADDAX PETROLEUM SERVICES LTD Vs FEDERAL INLAND REVENUE SERVICE**	TAT/LZ/016/ 2011	2002-2004	US$895,092.00 US$1,033,315.00 US$1,144,827.00	CIT
15	KANDELITE ENGINEERING COMPANY LTD Vs FEDERAL INLAND REVENUE SERVICE	TAT/LZ/007/ 2011	1999-2004	N25,580,607.00	CIT

Table 7.4: Company income tax cases in Courts 2004-2012
Source: adopted from Tax Appeal Tribunal
Rate: **CIT @ 30% Penalty @ 10% and Interest @ 5% per annum**

OMEGA SAVINGS AND LOANS LIMITED

YOA	TAX TYPE	TAX LIAB/ILITY ₦	PENALTY ₦	INTEREST ₦	TOTAL ₦
2004	CIT	34,014.91	5,283.96	10,567.92	49,866.79
	EDT	6,782.26	1,053.57	2,107.14	9,942.97
2005	CIT	51,024.02	7,926.19	15,852.39	74,802.60
	EDT	10,173.40	1,580.36	3,160.72	14,914.48
2007	CIT	3,259,042.24	474,123.67	948,247.35	4,681,413.26
	EDT	2,405,305.81	349,922.57	699,845.14	3,455,073.52
2008	CIT	19,345,422.54	2,745,459.96	5,490,919.93	27,581,802.43
	EDT	1,762,287.98	250,100.04	500,200.09	2,512,588.11
	TOTAL	**26,874,053.16**	**3,835,450.32**	**7,670,900.68**	**38,380,404.16**

WATER PARKS LTD

Period	Estimated Profit	Tax at 30%
2007	₦2,000,000	₦600,000
2008	₦2,500,000 Less Tax paid Tax Due	₦750,000 (₦68,248) ₦681,752
2009	₦2,700,000	₦810,000
2010	₦3,000,000	₦900,000
Total Income Tax Liability		₦2,991,752

OANDO SUPPLY & TRADING LTD

	Financial Year 2004	**Financial Year 2005**	**Financial Year 2006**	**Financial Year 2007**
	₦'000	**₦'000**	**₦'000**	**₦'000**
Profit before Taxation	988,496	2,102,921	2,855,591	3,717,196
Taxation	97,694	727,117	501,914	1,045,714
Profit after Taxation	**890,802**	**1,375,804**	**2,353,677**	**2,671,482**
Retained Earnings b/f	2,039,641	2,278,124	2,500,659	3,423,584
Less: Dividends declared in respect of previous Year and Paid in the current Year	652,319	1,144,602	1,430,752	2,289,203
Bal. of Retained Earnings after Dividends	1,387,322	1,133,522	1,069,907	1,134,381
Add: Profit after Taxation	890,802	1,375,804	2,353,677	2,671,482
Prior Year Adjustment	0	(8,667)	0	0
Retained Earnings c/f	2,278,124	2,500,659	3,423,584	3,805,863
Taxable Profit (Total Profits) computed from the Fin. Year's Accounting Profit	**Nil**	**1,088,721**	**1,718,308**	**1,707,858**
Income Tax Chargeable @ 30%	Nil	326,616	515,492	512,3577
Education Tax @ 2%	23,201	60,885	64,029	72,269
Total Tax Payable	23,201	387,501	579,522	584,626

Weatherford Services S.D.E.R.L. (WSSDRL)

Assessment no	Year of assessment	Recharges ($)	Deemed profit ($)	CIT @ 30% ($)	Penalty @ 10% ($)	Interest @ 5% per annum ($)	Total Additional Tax ($)
PBDA 402	2007	4,773,820.95	954,764.19	286,429.26	28,642.93	85,928.78	401,000.96
PBDA 401	2008	2,191,752.28	438,350.46	131,505.14	13,150.51	32,876.28	177,531.93
PBDA 400	2010	4,529,423.66	905,884.73	271,765.42	27,176.54	40,764.81	339,706.77
PBDA 399	2011	7,827,316.95	1,565,463.39	469,639.02	46,963.90	46,963.90	563,566.82
						TOTAL	1,481,806.49

Appendix C 3

FEDERAL INLAND REVENUE SERVICE (FIRS)

PRESS RELEASE

How e-collection contained $92 million loss at Nigerian Inland Revenue Service

Few people like to pay tax. In Nigeria and many parts of developing world, some tax officials, in collusion with some banks and mega corporations often squirrel bits and pieces of tax revenue.

The story in changing in Nigeria, where the Federal Inland Revenue Service, FIRS, has deployed Information Communications Technology, ICT to plug $92 million (N12billion) loss that traditionally vanishes into private pockets.

This amount-which could fetch Nigerian rural communities and villages 24,000 boreholes –at $3846 (N500, 000 naira) per borehole — is the value of the loss which the automation of tax collection in FIRS has contained.

In a country, with less than 10 per cent IT penetration, FIRS' attainment under Omoigui, exemplifies how functional application of Information Technology, IT could promote efficiency, accountability and plug institutional leakages.

Omoigui led the Nigerian federal tax agency to collect over 15 billion dollars ($15,000,000,000.00), tax revenue for the three tiers of Government in Nigeria: federal, states and local governments

The FIRS chairman spoke in Port Harcourt on Sunday, where she presented a paper on how states could develop efficient tax administrative machinery. It was at a budget retreat, organised by the Bayelsa state government, a state in the South-South region of Nigeria.

According to Omoigui, the FIRS contained leakages in tax collection, with the automation of the tax collection process. The manual collection system allowed banks to play God with taxpayers' deposits.

The old manual collection process also gave staff access to taxpayers' cash and cheques. Then, it was common to find some corrupt FIRS staff colluding with banks to defraud the FIRS and the nation.

The FIRS, said Omoigui, however, stemmed such leakages with the automation of the tax collection system. About 95 percent of tax collected by FIRS is now on-line.

The bigger automation collection process is called Project FACT-an acronym for Friendly, Accurate, Complete and Timely, is one of the several processes to improve the FIRS collection system. Tax collection in the Nigerian Inland Revenue Service became automated, about a year after Omoigui's appointment.

The beauty of the system, the FIRS chairman said, is that from her table and that of any authorised official, the FIRS chairman could obtain FIRS daily collection data from any part of the country.

Collection is swept automatically through the Interswitch-based collection system from the 12 collecting banks to the lead banks and from thence to the Central Bank of Nigeria(CBN). Interswitch, is an ICT firm that provides the backbone for the bulk of e-payment transactions in Nigeria.

Said the FIRS chairman: "Automation of collection has ensured that tax collected daily by the FIRS from all parts of the country, is swept automatically, electronically, into the Central Bank of Nigeria (CBN) through our collecting banks. This has stopped incidents of trapped funds in banks; eliminated diversion of cheques by some bad staff and reduced fraud in the collection system. Members of staff no longer handle taxpayers' cash or cheques.

"Today, taxpayers pay into designated accounts. Automation gives authorised Federal Government officials, real time, and almost minute by minute report on taxes collected by the FIRS. Cases of trapped or unremitted funds, running into about N12 billion were rampant when the FIRS operated the manual system. FIRS offices are also being computerised, in preparation for an automated and fully Integrated Tax Administration System, (ITAS)," she said.

A further fall out of the automation of the operations of the FIRS and the reforms in the last three years, Omoigui said, is that there had been improvement in non oil revenue generation into the Federation Account.

"We have also improved revenue generation … The Federal Inland Revenue Service generated N8 trillion from various taxes in the last 11 years. A large part of this revenue was generated in the last three years.

"The highest figure of a single annual generation of about N2 trillion was recorded in 2006, while the previous two years show a record of N1.0 trillion in 2004 and N1.8 trillion in 2005.The least figure was generated in 1998, with the Service posting N99.4 billion. The service generated N106bn in 1996, N 131 billion in 1997, N171 billion in 1999 and N455 billion in 2000. Others include N587 billion in 2001, N434 billion in 2002 and N698 billion in 2003. Deliberate efforts by the FIRS led to a marked increase in generation of non- oil revenue," she said.

"This was made possible with the training and retraining of 4,400 management, senior and junior staff (out of the current 5,600 staff in place), enjoying specialised and industry/issue specific training and study Tours, within and outside the country.

"Hitherto, very little training was in place. Most staff had received no training for over 10-years. As a result of the reorganization and realignment of functions, over 2,000 new job openings have been created with improved opportunity for career growth and development within the service," he said.

Four other bills pend at the National Assembly.

She told the gathering, which included Governor Timipre Sylva, Senators and Representatives former ministers that a skilled, trained an efficient workforce, a robust taxpayer database, legislative and financial autonomy for State Board of Inland Revenue (SBIR), taxpayer education had assisted the FIRS in inching towards a professionalised and efficient workforce.

Bayelsa and many states tax boards, she noted, could profit by embracing these steps.

Omoigui, who led the legal, administrative and structural changes that culminated in the passage of four bills by the National assembly: (FIRS (Establishment) Act 2007- which gave the autonomy to the Nigerian tax agency, Value Added Tax (Amendment) Act 2007, Companies Income Tax (Amendment) Act 2007, National Automotive Council (Amendment) Act 2007– could be scrupulous with standards and ethics.

Daughter of Nigeria's former Surveyor-General, Omoigui who was valedictorian at her class, made a First Class in Accounting and got the highest number of prices ever won by any individual in the Faculty of Business Administration at the University of Lagos, Nigeria. She also has a Masters degree in Management Science from the Imperial College London.

Omoigui was a Partner in the firm of Arthur Andersen and Co -now KPMG Professional Services and Accenture and was Chief Responsibility Officer of ReStraL Ltd., a leadership and management services company, which she founded in 1996. She is a Fellow of the Chartered Institute of Accountants of Nigeria, and a Chartered Tax Practitioner.

President Umar Musa Yar'Adua has forwarded Omoigui's name for confirmation by the Senate, Nigeria's upper chamber, for a fresh three-year term.

Press Release forwarded on December 3, 2007, by

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FIRS Establishment Act 2007

Appendix C4

N4.69tn generated from taxes in 2014 – FIRS

JANUARY 30, 2015 : AGENCY REPORT

FIRS logo
| credits: File copy

The Federal Inland Revenue Service said on Thursday that it generated N4.69tn from taxes for the Federal Government in 2014.

The News Agency of Nigeria reported that the FIRS said in its Quarterly Revenue Report issued in Abuja that the figure surpassed its target for the year by about N400bn.

The report, however, showed that the 2014 revenue was about N106bn less than that of the previous year, which stood at N4.80tn.

According to the report, the revenue is derived from petroleum profit and non-oil taxes, including personal income, gas income, capital gain, stamp duty and value added taxes.

The report also indicated that N2.45tn, representing 52.96 per cent, was collected from Petroleum Profit Tax, while N2.24tn, representing 47.04 per cent, was collected from non-oil taxes during the period.

A breakdown of the total collection showed that Company Income Tax contributed N1.18tn; gas income, N10.83bn; Capital Gain Tax, N2.59bn; and Stamp Duty, N10.94bn.

The VAT, comprising Nigeria Customs Service Import VAT and non-import VAT, according to the report, contributed N802.95bn of the total non-oil tax collection during the period.

The report also stated that other non-oil taxes collected were Education Tax, N189.61bn; Consolidated Account, N53.28bn; and National Information Technology Development Fund levy, N9.91bn.

The report further showed that N1.05tn was collected in the first quarter, while N1.45tn accrued in the second quarter.

It also indicated that N1.19tn was collected in the third quarter and N1tn in the fourth quarter.

FEDERAL INLAND REVENUE SERVICE (FIRS) 15, Sokode Crescent, Wuse Zone 5, Abuja-Nigeria Tel: +234(0) 96701467 www.firs.gov.ng

PRESS RELEASE TAX REVENUE HITS N3.81trn IN 9 MONTHS …as FIRS remits N21.94bn to FCTA The Federal Inland Revenue Service (FIRS) has so far collected and remitted the sum of N23.30 billion tax revenue due to the Federal Capital Territory Administration (FCTA) for the nine months in 2012. The amount which represents Pay-As-You-Earn (PAYEE) and Personal Income Tax (PIT) collected from the residents of the territory shows an increase in the figure when compared with N21, 94 billion remitted for the same period in 2011. This performance is a reflection of the Service general revenue collection for the first, second and third quarter of 2012 which stood at N3.81 trillion. With this amount, the FIRS has surpassed the N3.6 trillion provisional annual budget estimates nine months into the year, with oil taxes recording N2.399 trillion and N1.406 trillion for non-oil. The collection represents an increase revenue collection performance of about N890 billion when compared to the total collection of N2.91 trillion for the same period in 2011. In 2011, the Service recorded N955.19 billion in the first quarter, N985.30 billion in the Second quarter and N974.65 billion for the third quarter. The 2012 figure represented a remarkable increase in tax collection which respectively includes N1.172 trillion in first quarter, N1.267 trillion in second quarter and N1.366 trillion in the third quarter of the year under consideration. Equally, the N23.30 billion so far remitted to the FCTA represents a considerable increase in the Service collection and remittance when viewed against the N23.24 billion total realisation in 2010. A breakdown of the collection from January to September shows that N2.027 billion was realised in January, N2.691 billion in February, N3.133 billion in March, N2.721 billion in April and N3.044 billion in May. The figure recorded in June was N2.221 billion, N3.055 billion in July, N2.463 billion in August, while September accounted for N1.947 billion of the tax revenue. Remarkably, FIRS has taken steps to bring more potential taxpayers into the tax net through the establishment of Satellite Tax Offices (STO) across FCT major markets in 2012. However, there is the need for more collaboration and partnership among relevant stakeholders within the territory in order to actualise the Service determination to expand the revenue base of the country. Part of FIRS effort is to improve taxpayer's education and services, processes and procedures as well as bring tax administration closer to taxpayers in order to enhance voluntary tax compliance.

Statutorily, the Taxes and Levies (Approved List for Collection) Act, Cap T2, Laws of the Federation of Nigeria (LFN) 2007 empowered the FIRS to collect taxes on behalf of the Federal Government in FCT. The extant law clearly stipulates the taxes to be collected by the Federal Government to include Companies Income Tax, Withholding Tax on Companies, residents of the Federal Capital Territory, Abuja and non – resident individuals, Petroleum Profit Tax, Value Added Tax, and Education Tax. Others are Capital Gains Tax on residents of the FCT, Abuja, bodies' corporate and non–resident individuals, Stamp Duties on bodies corporate and residents of the FCT, Abuja. It also includes Personal Income Tax in respect of Members of the Armed forces of the Federation, Members of the Nigeria Police Force, Residents of the Federal Capital Territory, Staff of Ministry of Foreign Affairs and non-resident individuals. Furthermore Section 2(1) and (2) of the Personal Income Tax, Cap P8, LFN, 2004 provides that personal income on residents of the FCT shall be imposed by the FIRS. Equally, First Schedule of the FIRS Establishment Act 2007 provides the list of legislation administered by the Service to include Companies Income Tax Act Cap.60 LFN, 1990; Petroleum Profits Tax Cap.354 LFN, 1990; Personal Income Tax Act Cap. 104, 1993, Capital Gains Tax Act Cap. 42 LFN, 1990; Value Added Tax Act 1993 No. 102, 1993 and Stamp Duty Act Cap. 411 LFN, 1990. The Schedule went further at subsection (8), (9) and (10) to include: `` all regulations, proclamation, government notices or rules issued in terms of these legislation. ``Any other law for the assessment, collection and accounting of revenue accruable to the Government of the Federation as may be made by the National Assembly from time to time or regulation incidental to those laws, conferring any power, duty and obligation on the Service. ``Enactment or Laws imposing Taxes and Levies within the Federal Capital Territory.''

Emmanuel Obeta

Director, Communications and Liaison Department

October 17, 2012.

Appendix C 5

Taxpayers of company income tax in Nigeria

Companies	Tickers	Sectors
7-UP BOTTLING COMP. PLC.	7UP	CONSUMER GOODS
A.G. LEVENTIS NIGERIA PLC.	AGLEVENT	CONGLOMERATES
ABBEY MORTGAGE BANK PLC	ABBEYBDS	FINANCIAL SERVICES
ACADEMY PRESS PLC.	ACADEMY	SERVICES
ACCESS BANK PLC.	ACCESS	FINANCIAL SERVICES
ADSWITCH PLC.	ADSWITCH	INDUSTRIAL GOODS
AFRICA PRUDENTIAL REGISTRARS PLC	AFRIPRUD	FINANCIAL SERVICES
AFRICAN ALLIANCE INSURANCE COMPANY PLC	AFRINSURE	FINANCIAL SERVICES
AFRICAN PAINTS (NIGERIA) PLC.	AFRPAINTS	INDUSTRIAL GOODS
AFRIK PHARMACEUTICALS PLC.	AFRIK	HEALTHCARE
AFROMEDIA PLC	AFROMEDIA	SERVICES
AIICO INSURANCE PLC.	AIICO	FINANCIAL SERVICES
AIRLINE SERVICES AND LOGISTICS PLC	AIRSERVICE	SERVICES
ALUMINIUM EXTRUSION IND. PLC.	ALEX	NATURAL RESOURCES
ALUMINIUM MANUFACTURING COMPANY PLC	ALUMACO	NATURAL RESOURCES
ANINO INTERNATIONAL PLC.	ANINO	OIL AND GAS
ARBICO PLC.	ARBICO	CONSTRUCTION/REAL ESTATE
ASHAKA CEM PLC	ASHAKACEM	INDUSTRIAL GOODS
ASO SAVINGS AND LOANS PLC	ASOSAVINGS	FINANCIAL SERVICES
ASSOCIATED BUS COMPANY PLC	ABCTRANS	SERVICES
AUSTIN LAZ & COMPANY PLC	AUSTINLAZ	INDUSTRIAL GOODS
AVON CROWNCAPS & CONTAINERS	AVONCROWN	INDUSTRIAL GOODS
B.O.C. GASES PLC.	BOCGAS	NATURAL RESOURCES
BECO PETROLEUM PRODUCT PLC	BECOPETRO	OIL AND GAS
BERGER PAINTS PLC	BERGER	INDUSTRIAL GOODS
BETA GLASS CO PLC.	BETAGLAS	INDUSTRIAL GOODS
C & I LEASING PLC.	CILEASING	SERVICES
CADBURY NIGERIA PLC.	CADBURY	CONSUMER GOODS
CAP PLC	CAP	INDUSTRIAL GOODS
CAPITAL HOTEL PLC	CAPHOTEL	SERVICES
CAPITAL OIL PLC	CAPOIL	OIL AND GAS
CAVERTON OFFSHORE SUPPORT GRP PLC	CAVERTON	SERVICES
CEMENT CO. OF NORTH.NIG. PLC	CCNN	INDUSTRIAL GOODS
CHAMPION BREW. PLC.	CHAMPION	CONSUMER GOODS
CHAMS PLC	CHAMS	ICT
CHELLARAMS PLC.	CHELLARAM	CONGLOMERATES

COMPUTER WAREHOUSE GROUP PLC	CWG	ICT
CONOIL PLC	CONOIL	OIL AND GAS
CONSOLIDATED HALLMARK INSURANCE PLC	HMARKINS	FINANCIAL SERVICES
CONTINENTAL REINSURANCE PLC	CONTINSURE	FINANCIAL SERVICES
CORNERSTONE INSURANCE COMPANY PLC.	CORNERST	FINANCIAL SERVICES
COSTAIN (W A) PLC.	COSTAIN	CONSTRUCTION/REAL ESTATE
COURTEVILLE BUSINESS SOLUTIONS PLC	COURTVILLE	ICT
CUSTODIAN AND ALLIED PLC	CUSTODYINS	FINANCIAL SERVICES
CUTIX PLC.	CUTIX	INDUSTRIAL GOODS
DAAR COMMUNICATIONS PLC	DAARCOMM	SERVICES
DANGOTE CEMENT PLC	DANGCEM	INDUSTRIAL GOODS
DANGOTE FLOUR MILLS PLC	DANGFLOUR	CONSUMER GOODS
DANGOTE SUGAR REFINERY PLC	DANGSUGAR	CONSUMER GOODS
DEAP CAPITAL MANAGEMENT & TRUST PLC	DEAPCAP	FINANCIAL SERVICES
DIAMOND BANK PLC	DIAMONDBNK	FINANCIAL SERVICES
DN MEYER PLC.	DNMEYER	INDUSTRIAL GOODS
DN TYRE & RUBBER PLC	DUNLOP	CONSUMER GOODS
E-TRANZACT INTERNATIONAL PLC	ETRANZACT	ICT
ECOBANK TRANSNATIONAL INCORPORATED	ETI	FINANCIAL SERVICES
EKOCORP PLC.	EKOCORP	HEALTHCARE
ELLAH LAKES PLC.	ELLAHLAKES	AGRICULTURE
EQUITY ASSURANCE PLC.	EQUITYASUR	FINANCIAL SERVICES
ETERNA PLC.	ETERNA	OIL AND GAS
EVANS MEDICAL PLC.	EVANSMED	HEALTHCARE
FBN HOLDINGS PLC	FBNH	FINANCIAL SERVICES
FCMB GROUP PLC.	FCMB	FINANCIAL SERVICES
FIDELITY BANK PLC	FIDELITYBK	FINANCIAL SERVICES
FIDSON HEALTHCARE PLC	FIDSON	HEALTHCARE
FIRST ALUMINIUM NIGERIA PLC	FIRSTALUM	INDUSTRIAL GOODS
FLOUR MILLS NIG. PLC.	FLOURMILL	CONSUMER GOODS
FORTE OIL PLC.	FO	OIL AND GAS
FORTIS MICROFINANCE BANK PLC	FORTISMFB	FINANCIAL SERVICES
FTN COCOA PROCESSORS PLC	FTNCOCOA	AGRICULTURE
G CAPPA PLC	GCAPPA	CONSTRUCTION/REAL ESTATE
GLAXO SMITHKLINE CONSUMER NIG. PLC.	GLAXOSMITH	HEALTHCARE
GOLDEN GUINEA BREW. PLC.	GOLDBREW	CONSUMER GOODS
GOLDLINK INSURANCE PLC	GOLDINSURE	FINANCIAL SERVICES
GREAT NIGERIAN INSURANCE PLC	GNI	FINANCIAL SERVICES
GREIF NIGERIA PLC	VANLEER	INDUSTRIAL GOODS

GUARANTY TRUST BANK PLC.	GUARANTY	FINANCIAL SERVICES
GUINEA INSURANCE PLC.	GUINEAINS	FINANCIAL SERVICES
GUINNESS NIG PLC	GUINNESS	CONSUMER GOODS
HONEYWELL FLOUR MILL PLC	HONYFLOUR	CONSUMER GOODS
IKEJA HOTEL PLC	IKEJAHOTEL	SERVICES
INFINITY TRUST MORTGAGE BANK PLC	INFINITY	FINANCIAL SERVICES
INTERLINKED TECHNOLOGIES PLC	INTERLINK	SERVICES
INTERNATIONAL BREWERIES PLC.	INTBREW	CONSUMER GOODS
INTERNATIONAL ENERGY INSURANCE COMPANY PLC	INTENEGINS	FINANCIAL SERVICES
INVESTMENT AND ALLIED ASSURANCE	IAINSURE	FINANCIAL SERVICES
IPWA PLC	IPWA	INDUSTRIAL GOODS
JAPAUL OIL & MARITIME SERVICES PLC	JAPAULOIL	OIL AND GAS
JOHN HOLT PLC.	JOHNHOLT	CONGLOMERATES
JOS INT. BREWERIES PLC.	JOSBREW	CONSUMER GOODS
JULI PLC.	JULI	SERVICES
JULIUS BERGER NIG. PLC.	JBERGER	CONSTRUCTION/REAL ESTATE
LAFARGE AFRICA PLC.	WAPCO	INDUSTRIAL GOODS
LASACO ASSURANCE PLC.	LASACO	FINANCIAL SERVICES
LAW UNION AND ROCK INS. PLC.	LAWUNION	FINANCIAL SERVICES
LEARN AFRICA PLC	LEARNAFRCA	SERVICES
LENNARDS (NIG) PLC.	LENNARDS	SERVICES
LINKAGE ASSURANCE PLC	LINKASSURE	FINANCIAL SERVICES
LIVESTOCK FEEDS PLC.	LIVESTOCK	AGRICULTURE
MANSARD INSURANCE PLC	MANSARD	FINANCIAL SERVICES
MASS TELECOMMUNICATION INNOVATIONS NIGERIA PLC	MTI	ICT
MAY & BAKER NIGERIA PLC.	MAYBAKER	HEALTHCARE
MCNICHOLS PLC	MCNICHOLS	CONSUMER GOODS
MOBIL OIL NIG PLC.	MOBIL	OIL AND GAS
MORISON INDUSTRIES PLC.	MORISON	HEALTHCARE
MRS OIL NIGERIA PLC.	MRS	OIL AND GAS
MTECH COMMUNICATIONS PLC	MTECH	ICT
MULTI-TREX INTEGRATED FOODS PLC	MULTITREX	CONSUMER GOODS
MULTIVERSE PLC	MULTIVERSE	NATURAL RESOURCES
MUTUAL BENEFITS ASSURANCE PLC.	MBENEFIT	FINANCIAL SERVICES
N NIG. FLOUR MILLS PLC.	NNFM	CONSUMER GOODS
N.E.M INSURANCE CO (NIG) PLC.	NEM	FINANCIAL SERVICES
NATIONAL SALT CO. NIG. PLC	NASCON	CONSUMER GOODS
NAVITUS ENERGY PLC	UNIONVENT	OIL AND GAS
NCR (NIGERIA) PLC.	NCR	ICT
NEIMETH INTERNATIONAL PHARMACEUTICALS PLC	NEIMETH	HEALTHCARE
NESTLE NIGERIA PLC.	NESTLE	CONSUMER GOODS

NIG SEW. MACH. MAN. CO. PLC.	NIGSEWING	INDUSTRIAL GOODS
NIGER INSURANCE CO. PLC.	NIGERINS	FINANCIAL SERVICES
NIGERIA ENERYGY SECTOR FUND	NESF	FINANCIAL SERVICES
NIGERIA-GERMAN CHEMICALS PLC.	NIG-GERMAN	HEALTHCARE
NIGERIAN AVIATION HANDLING COMPANY PLC	NAHCO	SERVICES
NIGERIAN BREW. PLC.	NB	CONSUMER GOODS
NIGERIAN ENAMELWARE PLC.	ENAMELWA	CONSUMER GOODS
NIGERIAN ROPES PLC	NIGROPES	INDUSTRIAL GOODS
NIGERIAN WIRE AND CABLE PLC.	NIWICABLE	INDUSTRIAL GOODS
NPF MICROFINANCE BANK PLC	NPFMCRFBK	FINANCIAL SERVICES
OANDO PLC	OANDO	OIL AND GAS
OKOMU OIL PALM PLC.	OKOMUOIL	AGRICULTURE
OMATEK VENTURES PLC	OMATEK	ICT
OMOLUABI SAVINGS AND LOANS PLC	OMOSAVBNK	FINANCIAL SERVICES
P S MANDRIDES & CO PLC.	MANDRID	CONSUMER GOODS
P Z CUSSONS NIGERIA PLC.	PZ	CONSUMER GOODS
PAINTS AND COATINGS MANUFACTURES PLC	PAINTCOM	INDUSTRIAL GOODS
PHARMA-DEKO PLC.	PHARMDEKO	HEALTHCARE
PORTLAND PAINTS & PRODUCTS NIGERIA PLC	PORTPAINT	INDUSTRIAL GOODS
PREMIER BREWERIES PLC	PREMBREW	CONSUMER GOODS
PREMIER PAINTS PLC.	PREMPAINTS	INDUSTRIAL GOODS
PRESCO PLC	PRESCO	AGRICULTURE
PRESTIGE ASSURANCE CO. PLC.	PRESTIGE	FINANCIAL SERVICES
R T BRISCOE PLC.	RTBRISCOE	SERVICES
RAK UNITY PET. COMP. PLC.	RAKUNITY	OIL AND GAS
RED STAR EXPRESS PLC	REDSTAREX	SERVICES
REGENCY ALLIANCE INSURANCE COMPANY PLC	REGALINS	FINANCIAL SERVICES
RESORT SAVINGS & LOANS PLC	RESORTSAL	FINANCIAL SERVICES
ROADS NIG PLC.	ROADS	CONSTRUCTION/REAL ESTATE
ROKANA INDUSTRIES PLC.	ROKANA	CONSUMER GOODS
ROYAL EXCHANGE PLC.	ROYALEX	FINANCIAL SERVICES
S C O A NIG. PLC.	SCOA	CONGLOMERATES
SECURE ELECTRONIC TECHNOLOGY PLC	NSLTECH	SERVICES
SEPLAT PETROLEUM DEVELOPMENT COMPANY LTD	SEPLAT	OIL AND GAS
SIM CAPITAL ALLIANCE VALUE FUND	SIMCAPVAL	FINANCIAL SERVICES
SKYE BANK PLC	SKYEBANK	FINANCIAL SERVICES
SKYE SHELTER FUND PLC	SKYESHELT	CONSTRUCTION/REAL ESTATE
SMART PRODUCTS NIGERIA PLC	SMURFIT	CONSTRUCTION/REAL ESTATE
SOVEREIGN TRUST INSURANCE PLC	SOVRENINS	FINANCIAL SERVICES

STANBIC IBTC HOLDINGS PLC	STANBIC	FINANCIAL SERVICES
STANDARD ALLIANCE INSURANCE PLC.	STDINSURE	FINANCIAL SERVICES
STANDARD TRUST ASSURANCE PLC	STACO	FINANCIAL SERVICES
STERLING BANK PLC.	STERLNBANK	FINANCIAL SERVICES
STOKVIS NIG PLC.	STOKVIS	INDUSTRIAL GOODS
STUDIO PRESS (NIG) PLC.	STUDPRESS	SERVICES
TANTALIZERS PLC	TANTALIZER	SERVICES
THOMAS WYATT NIG. PLC.	THOMASWY	NATURAL RESOURCES
TOTAL NIGERIA PLC.	TOTAL	OIL AND GAS
TOURIST COMPANY OF NIGERIA PLC.	TOURIST	SERVICES
TRANS-NATIONWIDE EXPRESS PLC.	TRANSEXPR	SERVICES
TRANSCORP HOTELS PLC	TRANSCOHOT	SERVICES
TRANSNATIONAL CORPORATION OF NIGERIA PLC	TRANSCORP	CONGLOMERATES
TRIPPLE GEE AND COMPANY PLC.	TRIPPLEG	ICT
U A C N PLC.	UACN	CONGLOMERATES
U T C NIG. PLC.	UTC	CONSUMER GOODS
UACN PROPERTY DEVELOPMENT CO. LIMITED	UAC-PROP	CONSTRUCTION/REAL ESTATE
UBA CAPITAL PLC	UBCAP	FINANCIAL SERVICES
UNIC INSURANCE PLC.	UNIC	FINANCIAL SERVICES
UNILEVER NIGERIA PLC.	UNILEVER	CONSUMER GOODS
UNION BANK NIG.PLC.	UBN	FINANCIAL SERVICES
UNION DIAGNOSTIC & CLINICAL SERVICES PLC	UNIONDAC	HEALTHCARE
UNION DICON SALT PLC.	UNIONDICON	CONSUMER GOODS
UNION HOMES REAL ESTATE INVESTMENT TRUST (REIT)	UHOMREIT	CONSTRUCTION/REAL ESTATE
UNION HOMES SAVINGS AND LOANS PLC.	UNHOMES	FINANCIAL SERVICES
UNITED BANK FOR AFRICA PLC	UBA	FINANCIAL SERVICES
UNITY BANK PLC	UNITYBNK	FINANCIAL SERVICES
UNITY KAPITAL ASSURANCE PLC	UNITYKAP	FINANCIAL SERVICES
UNIVERSAL INSURANCE COMPANY PLC	UNIVINSURE	FINANCIAL SERVICES
UNIVERSITY PRESS PLC.	UPL	SERVICES
VITAFOAM NIG PLC.	VITAFOAM	CONSUMER GOODS
VONO PRODUCTS PLC.	VONO	CONSUMER GOODS
W A GLASS IND. PLC.	WAGLASS	INDUSTRIAL GOODS
WAPIC INSURANCE PLC	WAPIC	FINANCIAL SERVICES
WEMA BANK PLC.	WEMABANK	FINANCIAL SERVICES
ZENITH INTERNATIONAL BANK PLC	ZENITHBANK	FINANCIAL SERVICES